

The Architect's Newspaper

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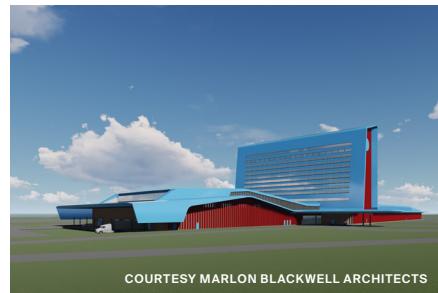


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Design on Trial

A legal battle between Marlon Blackwell Architects and HBG Design has been resolved.



COURTESY MARLON BLACKWELL ARCHITECTS



COURTESY HBG DESIGN

An intellectual property (IP) dispute over the design of the Saracen Casino Resort in Pine Bluff, Arkansas, settled this past January, might easily have been a subplot in Netflix's *Ozark*, as the case has all the twists and turns of a rustic neo-noir tale.

Saracen Casino is owned by the Quapaw Nation, based in northeast Oklahoma, with ancestral lands throughout Arkansas and neighboring states. After performing extensive design work from mid-2017 to March 2019 and then being abruptly dismissed, the Fayetteville, Arkansas-based design architect Marlon Blackwell Architects (MBA) sued the casino's architect of record, Memphis, Tennessee-based HBG Design (previously Hnedak Bobo Group), for copyright infringement, attribution, tortious interference, breach of contract, and unjust enrichment. (Earlier developments in this case were covered by AN in 2019.) Other named defendants included John L. Berry, tribal business committee chairman for two decades; his successor, Joseph T. Byrd; and Saracen Development, an Arkansas-registered LLC created by the Quapaw Nation for the project.

The case was settled out of court in January 2022, with undisclosed financial terms and an [continued on page 6](#)

The curious case of a Wisconsin canton and its legally sanctioned "Swiss" architecture raises questions about identity construction. [Read on page 22](#)

Potemkin Village



BRIAN GRIFFIN

Radically Open

Selldorf Architects' expansion of the Museum of Contemporary Art San Diego looks out while inviting you in. [Read on page 18](#)



NICHOLAS VENEZIA/COURTESY SELLDORF ARCHITECTS

Code Breaker

Christopher Alexander, who died in March at 85, offered ways to unf*ck the world.

As news spread in March of Christopher Alexander's passing, I kept hearing a familiar story. On social media, architects of a certain age recounted catching their first glimpse of theory through encounters with the same compact, faded-yellow tomes. Bearing titles like *A Pattern Language*, *The Timeless Way of Building*, and *The Nature of Order*, they brimmed with what appeared to be secret codes to deciphering and designing a more humane built environment.

I say "familiar" because this was also my experience. As a high school senior, I came across dozens of these works at a used bookstore adjacent to the University of Oregon campus, which owes its fairy-tale quality in part to the invisible hand of Alexander. Redbrick, articulated human-scale form, the languorous West Coast atmosphere. There was a reason why Peter Eisenman christened him the "California joy-boy." [continued on page 11](#)

MoMA's Latest Show Is Hopeful, But Hollow

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COURTESY SWARAJ ART ARCHIVE

AN FOCUS

Facades+ at Ten

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Who Listens to Whom?



ASYA GOROVITS

The reading room at *Reset: Towards a New Commons*, at the Center for Architecture in New York

These days, it is widely acknowledged that soliciting community feedback in matters of development is good. But as journalist Jerusalem Demas eloquently argues in an article published in the *The Atlantic* last month, it's actually by and large totally bad.

According to Demas's reporting, community engagement is to blame for the fact that the U.S. is groaning under a 3.8-million-unit housing shortage, finds it almost impossible to complete public transit projects, and is falling behind in the production of renewable energy. When you think about it, this shouldn't surprise anyone, not least those in the architecture community. As anyone who has attended a community board meeting probably gleaned, NIMBYism is the most popular form of input.

What's broken about the community engagement process is twofold. One, local groups are empowered to delay or defeat massive infrastructure projects that have economic effects that are regional, if not national and global. Two, the vast majority of those who show up and voice opposition to projects that would benefit vast swaths of the populace are typically richer and whiter than the affected demographic—in other words, the people with the time and the lawyers to make an impact.

Demas advocates for a return to state-level control of the decision-making process when it comes to major infrastructure projects, including affordable housing. Maine, in fact, has just taken a major step toward reducing the cost of living by approving legislation that legalizes duplexes and ADUs statewide. This was done over the objection of a lobbying group for local governments.

While a return to the era of top-down planning has its pitfalls—just think of the pall the words “urban renewal” still cast over public discourse on these matters—the current neoliberal approach, which puts power solely in the hands of those who can afford it, clearly isn’t working out. And while we might hope that enlightened state governments will be better advocates for all their residents, some form of community listening—not just to those who yell the loudest but to those whose need is the greatest—is surely required.

Listening of this nature underpins *Reset: Towards a New Commons*, an exhibition up now through September 3 at the Center for Architecture in New York City. Curated by Barry Bergdoll and Juliana Barton, with design from Natasha Jen of Pentagram, the show features four umbrella projects designed by diverse teams that seek to foster more open and inclusive

community conversations about the fate of the built environment.

Aging Against the Machine, for example, looks at ways to create better housing and communities for older people so that they don’t fall into isolation and marginalization. Focusing on West Oakland, California, the project involved a series of roundtables and conversations with the community to develop proposals at a range of scales, from interior apartment renovations that make aging in place easier to collective ownership models and multigenerational housing concepts.

Block Party: From Independent Living to Disability Communalism explores ways that buildings and cities can be more than just “accessible” by challenging the predominance of single-family development. One project proposes removing fences and creating pathways that interlink neighborhoods via back- and side yards, turning what was private land into communal property.

Decolonizing Suburbia takes another swing at America’s favorite housing typology by investigating ways that the detached house can be hacked to accommodate more diverse forms of living. Taking the Avondale neighborhood of Cincinnati as its model, the project imagines reusing existing buildings and vacant lots for the creation of community services, such as food provision, education, and civic participation.

Re:Play Reclaiming the Commons Through Play works with four young people who live in New York City Housing Authority properties in East Harlem. Through a series of workshops, storytelling, listening sessions, and events, the project captures in a series of visualizations the dreams these young folks have for the underfunded park and play spaces that surround their homes.

What’s the difference between the engagement processes that led to the projects displayed in *Reset* and community board meetings? It seems to be a question of who is listening to whom. While we see that the typical community board meeting is dominated by white upper-class people who have the time and funds to protect their citadels from the encroachment of unsightly developments, the plans on view at the Center involve diverse design teams (and this is important) reaching out to underserved people to find out what they really need. That’s a form of community engagement that even Demas would undoubtedly greet with approval. **Aaron Seward**

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6 News

Design on Trial

Even as a legal battle between Marlon Blackwell Architects and HBG Design has been resolved, its effect on architectural practice will be lasting.

continued from cover agreement that attributions for the building must be as follows: "HBG Design, Inc., architect of record, derived from an original design by Marlon Blackwell Architects, P.A." The settlement bans the parties from discussing the case publicly beyond expressing satisfaction with its resolution. Mark Henry, MBA's attorney, characterized the dispute as resulting at least in part from Berrey's conduct, some of which came to light in mid-2020 after Byrd, who defeated Berrey in an election that July, had the nation's financial records audited and found significant irregularities. Attorneys for HBG and the other defendants did not respond to requests for comment.

Blackwell v. HBG has substantial implications for the legal relations between design architects and architects of record. These partnerships occasionally fail, sometimes when design work proceeds based on informal agreements before the partners' roles and scopes of work are formalized contractually. James R. Germano, manager and counsel at AIA Contract Documents (a separate organization from the national AIA, though headquartered in its Washington, D.C., base), said that "by using a coordinated set of construction documents ... parties can clearly understand their roles and responsibilities, and thereby avoid disputes like this one."

To architect Phillip Bernstein, who teaches professional practice at Yale University and was previously chair of the AIA National Contract Documents Committee, the case evinces both "traditional sloppiness around the management of intellectual property and someone who was willing to defend his intellectual property." Among HBG's defenses in a motion to dismiss was the assertion that there was no registered contract between the firms and thus no IP violation. This argument failed in court, as there clearly had been a legally binding contract, including a responsibility matrix and an agreement specifying the fee split to hundredths of a percentage point. Still, the arrangement constituted an "implicit contract," not a formal one explicitly defining IP rights.

Scenarios related to removal of an initial architect from a project, Bernstein said, are a regular concern and can have several bad outcomes: "You don't get paid, number one; number two, you don't get any credit for your work; and number three, the associate architect takes your work and bastardizes it in some way. Copyright laws are all in place to prevent this sort of thing." Bernstein added that he sees the case helping design architects everywhere. "Blackwell's office did the profession a huge favor by demonstrating that you have rights, and you can protect your rights."

Biting the hand that shared the .RVTs

According to MBA's second amended complaint, part of a 99-document docket filed in U.S. district court, HBG pushed MBA out of the project. HBG then removed MBA's logos, electronic metadata, and other "copyright management information" (CMI) from materials produced by MBA; passed off these designs as its own; and failed to pay MBA's share of fees.



Left: Marlon Blackwell Architects' casino design. Right: HBG's rendition of MBA's scheme



Right: HBG's rendition of MBA's scheme

Blackwell, who originally met Berrey in 2015 through a mutual friend, designed the Quapaw Wellness Center (a.k.a., the John Berrey Fitness Center) in Quapaw, Oklahoma. Blackwell also designed the VIP entrance and lounge for the nation's Downstream Casino and Resort in Quapaw. *Arkansas Business News* reported that Berrey asked Blackwell "to conceptualize a casino" in July 2017; Berrey used these initial designs in a campaign to get Issue 4, a constitutional amendment allowing casinos in four counties, including Jefferson (Pine Bluff's county), onto Arkansas ballots in November 2018. The Quapaws' Downstream Development Authority was the top donor supporting Issue 4, according to Ballotpedia. At that point, MBA was the sole architecture firm working on Saracen Casino; its renderings, presented to the press and public in the late stages of the campaign, arguably helped sway voters. Issue 4 passed by a margin of 54 percent to 46 percent.

By 2019, MBA had engaged HBG, despite Berrey's initial objections, since HBG, which specializes in the hospitality and entertainment sectors, had worked on a competing casino in Hot Springs. The firm's negotiated fees and the responsibility matrix were dated January 3, 2019, and MBA uploaded its Revit files onto HBG's on-site and cloud-storage servers that month, with both firms able to access the materials. On January 15, HBG and Berrey executed a letter of authorization stating that HBG would "coordinate with Marlon Blackwell Architects," and HBG principal Paul Bell sent a fee-split memorandum, affirming that MBA would receive over \$3 million, to Saracen Development agent Chris Roper on February 5.

That month, HBG's lead designer, Mark Weaver, emailed Blackwell to request renderings that would be displayed at a National Indian Gaming Association conference, assuring him of proper attribution. On March 7, Berrey displayed MBA renderings at a meeting at the Pine Bluff Convention Center, as reported in the *Northwest Arkansas Democrat-Gazette*, and spoke of completing the casino by Valentine's Day 2020.

By March 9, however, Berrey had apparently become agitated about MBA. Soon after, HBG personnel began locking MBA employees out of shared folders, and by the end of March the firm was deleting MBA's CMI from its drawings. MBA's complaint charged that HBG had "poisoned" the client's view of MBA through unspecified misinformation.

HBG registered copyright for multiple Revit files from which HBG created derivative works. Incriminating items in public records include direct evidence that HBG

personnel manually traced over MBA's documents; an internal HBG email dated April 10, 2019, in which Weaver, who had promised Blackwell credit two months earlier, told colleagues, "[L]et's make sure Marlon's team cannot see our new models until everything is resolved with them"; an admission by HBG's Tom Wilkins on April 11 that folders had been renamed and MBA's access removed; and an admission by HBG's Rick Gardner on June 18 that he had "concern ... that Marlon may file a complaint with the AIA that we are using his design without authorization." Another message on April 23 from Memphis architect Kelly Shannon Kirk to Weaver and an unidentified recipient is more damning: "Dayum... rumors out of hbg doesn't sound good. You took project from Marlon and kicked him to the curb." (Hardball tactics also characterize HBG's legal defense, which included a document dump of over 170,000 pages timed 22 minutes before the beginning of a key deposition in June 2021.)

Changes in tribal leadership recontextualized the unfolding story. Byrd investigated his predecessor's handling of Quapaw finances, and, based on the findings, the nation filed criminal and civil suits in its own court system in April 2021, charging Berrey and others with multiple counts of embezzlement, abuse of office, conspiracy, and other violations of the Quapaw Criminal Code. During an October 2021 meeting, an auditor detailed some \$34 million in misappropriated funds. Unauthorized perks, the nation claimed, included computers, tribal artwork, Rolex watches, spa visits, lavish meals and beverages, sports and concert tickets, and other items.

Berrey and seven co-defendants responded by filing slander and libel charges in an Oklahoma district court, which ultimately dismissed that suit on grounds of sovereign immunity (applicable in instances of disputes among the 6,000 tribes in the United States, each of which exercises independent power). Although the nation's case against Berrey et al. is pending, its Business Committee disqualified him from running in the next tribal election, in part because his lawsuit in a non-tribal court strikes some as treasonous. If convicted in Quapaw court, Berrey would be sent to a federal prison.

Black swan or representative case?

Leslie P. King, an architectural attorney with Carlton Fields in Hartford, Connecticut, who is admitted to practice in tribal courts in the state, reviewed the *Blackwell* case. She told *AN* that "what shocked me most is how blatantly obvious it seemed

after reading the complaint.... Had the executive architect not just completely appropriated the design, in my opinion, they might have actually had a claim for something else." The copyright infringement was egregious enough to take center stage over arguments about workload allocations, timetable, costs, or philosophical disagreement, among other topics. Berrey's initial response to the suit, quoted in *Arkansas Business*, suggested another possible source of contention: "We think that Mr. Blackwell is a very talented boutique architect. But functionality and constructability was lost in our process."

The case is "a very good reminder of architects' duties," King said, "especially when they take over someone else's work, to be mindful of where is that line between my work and their work." She added that the blatant violation makes *Blackwell* somewhat of a "black swan": Her opinion was that had the case gone to trial, "a jury looking at those two pictures would have been all over [it]. I think a jury would have awarded pretty much anything that a judge would have permitted."

Bernstein said that BIM usage weighs against any denial of appropriation by HBG; the firm's position "does not speak well for their understanding of, or respect for, architectural intellectual property. The problem, of course, is that all the copyrightable material is highly liquid, because it's all digital." When "you're working in someone's Revit file," he continued, "you're essentially working in a three-dimensional, information-rich prototype proxy of the building. So the idea that you could have created a completely unique work of architecture when your starting point was somebody else's Revit file is ridiculous."

Germano noted that there are safeguards against this offense in AIA contract documents and said that these items are updated every ten years to reflect evolving technology, practice conditions, and case law; the next update related to BIM should arrive in 2023. Germano, who participated in the previous 2013 revision, also commented that documents B-111 and B-112—for agreements between owners and design architects and owners and architects of record, respectively—were updated earlier this year. These agreements are structured, he said, so that "the design architect owns all the intellectual property rights in the instruments of service that they create." He also recommended the Lexis-Nexis case-finding tool AIA Legal Citor as a resource for architects, though it may be more familiar to construction litigators and contract negotiators. Perhaps its use could have saved HBG a few steps that strike expert observers as embarrassing.

After a COVID-delayed soft opening in October 2020, the Saracen Casino currently operates an 80,000-square-foot gaming area. However, the design's most recognizable element, to accommodate a 13-story hotel, remains unbuilt, with no construction dates set at press time. The casino's promotional website features exclusively indoor photography.

Bill Millard is a regular contributor to *AN*.

Rings of Meaning

Oyler Wu Collaborative's Orbits wins Cold War Veterans Memorial design competition.

In late March, the Chicago-based Pritzker Military Museum & Library announced that it had selected the winner of an international design competition for a memorial honoring members of the United States Armed Forces who served during the Cold War. Oyler Wu Collaborative's submission, Orbits, will be realized as a major element of the Pritzker Archives & Memorial Park Center (PAMPC), currently under construction in the village of Somers in Kenosha County, Wisconsin.

In a press release announcing the winning design concept, Col. Jennifer Pritzker, founder of the museum, noted that "each submitted design was remarkable and very inspiring. The final decision was tough, but after much discussion, we believe that the Orbits design will truly resemble a place where everyone who contributed to the Cold War will be honored."

Oyler Wu Collaborative, a Los Angeles-based experimental architecture firm led by Dwayne Oyler and Jenny Wu, was the sole U.S. entrant to advance to the competition shortlist, which was revealed in September 2021, after the competition launch the previous April. The three other finalist proposals were submitted by firms hailing from Italy, Jordan, and Japan.

Part building, part landform, Orbits pays tribute to the service members who were embroiled in a tense, decades-spanning geopolitical event, one with renewed salience today. Still, designing such a me-

morial presented unique challenges, Oyler and Wu told *AN*.

"What makes the idea of the Cold War Veterans Memorial so interesting is the broad cultural meaning that it evokes," said Wu. "The Cold War means so many different things to different people, so somehow containing that meaning in a single architectural moment is especially challenging. In many ways, it was that multiplicity of meanings that drove the design work."

"One significant challenge in the design of any memorial is in finding a balance between the desire to create a collective public experience—one that might be found in an iconic image, for example, versus a more intimate moment of reflection," added Oyler. "It's our belief that the two are not mutually exclusive, and we put much of our effort toward finding a balance between the two."

As noted in the most recent competition update shared by the museum, Oyler and Wu's design is "an architectural tribute to veterans, embodying the dedication, optimism, and hope that is emblematic of their enduring spirit. Collectively, the memorial unifies these complex narratives through juxtaposition, recognizing its interconnected history; one of sacrifice, triumph, and innovation."

Jurors for the two-stage competition included architect Moshe Safdie, landscape architect Thomas R. Oslund, and Harvey and Gina Pratt, founders of the Pratt Stu-



COURTESY OYLER WU COLLABORATIVE / PRITZKER MILITARY MUSEUM & LIBRARY

In late March, Oyler Wu Collaborative's design prevailed in a two-stage competition.

dio. The selection of Orbits marks the second major triumph for Oyler and Wu in less than a year. In April 2021, the duo, who are also both faculty members at SCI-Arc in Los Angeles, were among the winners of the 2021 Architecture Award, bestowed by the American Academy of Arts and Letters.

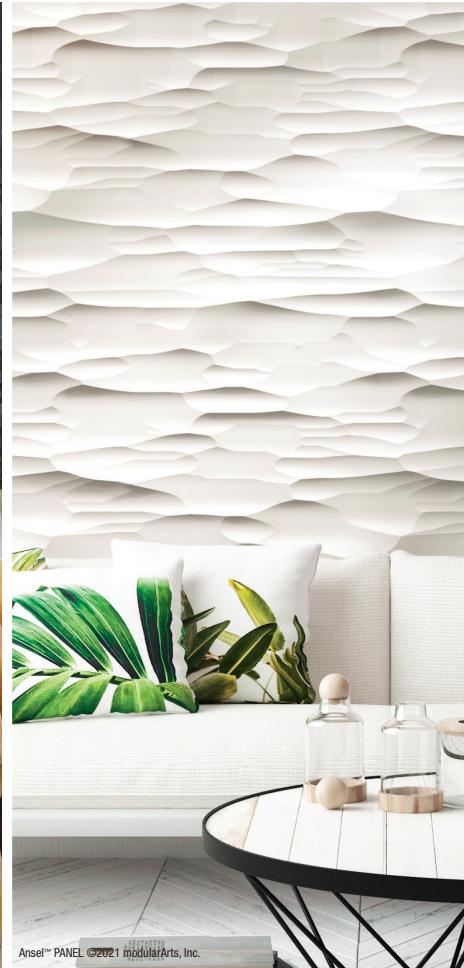
As previously reported by *AN*, the larger PAMPC project is a multiphase, ten-year effort that commenced with the construction of the JAHN-designed Pritzker Military Archives Center, which will house the collections of the Pritzker Military Museum & Library. A nearly 10,000-square-foot gallery will also be part of the complex. Other

major elements of the 288-acre PAMPC campus, located roughly 60 miles north of Chicago, include a state-of-the-art commercial archives facility available to private collectors, businesses, museums, libraries, and similar institutions; a center specializing in firearms education and training; and a community green space set to include 7,440 linear feet of publicly accessible walking and cycling paths.

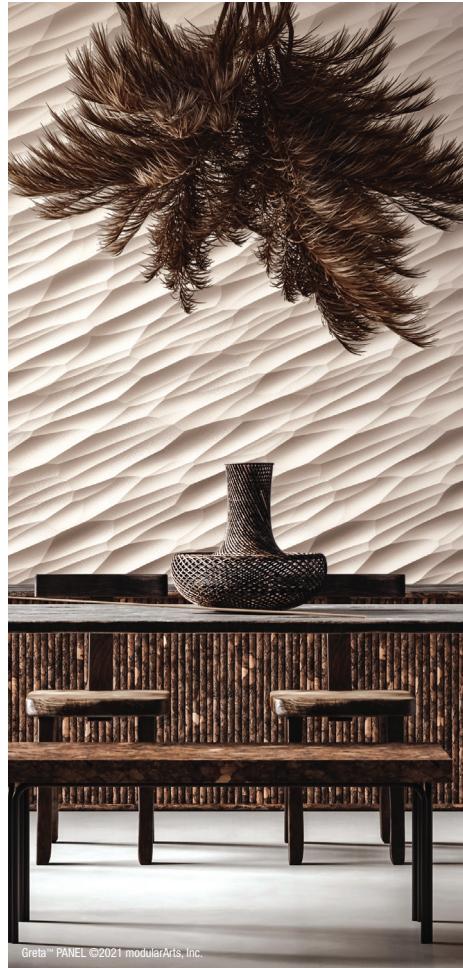
The archives center is slated for completion this November, while work on the Cold War Veterans Memorial is expected to kick off in 2024. **Matthew Hickman**



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8 News

Pressed for Space

Gyo Obata's restaurant pavilion on the National Mall is set to be demolished to make way for a \$130 million educational facility.

The Smithsonian Institution is preparing to tear down one of two buildings designed for the National Mall by the late architect Gyo Obata. In its place will rise a new educational facility called the Bezos Learning Center.

Smithsonian representatives recently told members of the National Capital Planning Commission and the U.S. Commission of Fine Arts (CFA) that demolition on the glass-clad dining pavilion, an annex to the 1976 National Air and Space Museum, will begin this spring.

Opened in 1988, the pyramid-shaped pavilion was intended to serve school groups and others attending the museum, one of the most visited in the country. Obata and his firm, Hellmuth, Obata + Kassabaum (now HOK), designed both the pavilion, which has been closed since 2017 and is not protected by any sort of landmark designation, and the Air and Space Museum, currently closed for renovations.

The Bezos Learning Center is a three-story, 50,000-square-foot project made possible by a \$200 million gift from billionaire Jeff Bezos, founder and executive chairman of Amazon and founder of the spaceflight company Blue Origin. The building will occupy roughly the same footprint as the restaurant pavilion on the east side of the Air and Space Museum. The Smithsonian describes it as a world-class educational center featuring programs and activities related to innovation and careers in science, technology, engineering, arts, and mathematics. It will be connected to all Smithsonian museums, coordinating collections and experts across the institution, and promoting inquiry-based learning for visitors of all ages, with a focus on underresourced communities.

Additionally, the Bezos building will contain a ground-floor restaurant, two floors above for programs, and a rooftop terrace with views of the National Mall and the U.S. Capitol. The main entrance to the center will be from the museum's second level.

The southeast corner of the site is likely to become the permanent home of the Phoebe Waterman Haas Public Observatory, now located on the museum's southeast terrace, and the eastern edge of the site may become an outdoor astronomy park, planners said at the CFA commission.

The Bezos Learning Center is a highly sought-after commission. The Smithsonian issued a solicitation for architects on January 18 and set a submission deadline of February 17. It is aiming to name an architect by the end of the year.

When Bezos's donation was announced in July 2021, leaders of the Smithsonian said it was the largest gift the institution has received since James Smithson's founding contribution in 1846, and that the building would be named after Bezos in honor of his donation. According to the Smithsonian, \$130 million of Bezos's \$200 million gift will be used to create the learning center—\$80 million for design and construction and \$50 million for programming. The remaining \$70 million is going toward renovating the approximately 604,000-square-foot Air and Space Museum, a project that started in 2018 and is expected to cost more than \$360 million. The renovation is being led by Quinn Evans Architects.

Consisting of four marble-clad pavilions punctuated at intervals by three glass and steel atria, the Air and Space Museum spans four city blocks and cost \$40 million to construct. Planners told the CFA the facility needed revitalization because certain building components were originally downgraded to keep construction costs low and have since worn out. The Smithsonian intends to supplement the gift from Bezos to demolish the existing restaurant, improve the museum's loading dock, and build a new restaurant, observatory, and astronomy park.

In the 1960s, Obata, who died on March 8 at 99, was chosen to design the Air and Space Museum—a scope of work that included the restaurant in question—over other leading modernist architects who sought the commission, including Kevin Roche and Gordon Bunshaft. Other key buildings designed by Obata include the Priory Chapel at Saint Louis Abbey in Creve Coeur, Missouri; Dallas/Fort Worth International Airport; the Bristol Myers Squibb campus in Princeton, New Jersey; and King Khalid International Airport and King Saud University in Saudi Arabia.

Carly Bond, a historic preservation specialist for the Smithsonian, told the CFA commission that the Air and Space Museum is considered a contributing resource to the National Mall Historic District because it is "a significant historic building designed without precedent for housing a nationally important collection of artifacts documenting the history of flight and space travel" and represents the work of a "recognized master" in architecture, among other factors.

However, Bond said "the restaurant addition was determined to be noncontributing to the historic significance" of the Air and Space Museum. She added that the former's later completion date affects whether it's considered to be a contributing element to the latter.

Preservation advocacy group Docomomo US disagrees. Executive director Liz Waytkus told AN that the organization "didn't feel the Smithsonian had done their due diligence" in evaluating the significance of the restaurant addition. "They were arguing the restaurant is not functionally related to the museum ... that it was somewhat of an afterthought. But the restaurant was always planned for that site, and its construction was delayed due to the lack of funding. The restaurant addition is functionally related to the museum building and should not have to stand on its own in terms of determining its eligibility for the National Register."

However, Docomomo US didn't take a stand on the demolition itself because members thought it would be premature, Waytkus said. "You can't make a determination on demolition until you've done all your research. So we're not weighing in on whether the building should be demolished or not [or] whether it should be replaced, because they haven't done enough research on its significance. It should have been much more in-depth about [Obata's] career and this entire project and not just the restaurant alone."

Waytkus lamented the prospective demolition from the standpoint of sustainability. "It's not an environmentally friend-

ly thing to do anymore, putting buildings in Dumpsters," she said. "We need to be reusing the fabric we already have."

According to Bond, the Smithsonian's planners explored the idea of retaining and repurposing the restaurant building before and after the Bezos gift was announced. They concluded that the Obata pavilion would not be able to accommodate the program envisioned for the Bezos Learning Center without substantial changes to create more square footage and address "building deficiencies." Bond added that the building is not energy-efficient and would be difficult to add onto or retrofit.

She said Smithsonian directors and others have drafted an agreement that governs how the project will move ahead. The agreement calls for the Obata building to be documented for historical purposes, among other points.

Bond also noted Docomomo US was the one consulting party that raised questions about the preservation process. "They didn't agree with our interpretation of the restaurant addition being separate" from the main museum and asked "how Air and Space is eligible for the National Register"

and not the restaurant addition, she said.

One CFA member, Duncan Stroik, had recommendations for the design of the replacement structure. He told the commission he believes there are two possible approaches to the design of the Bezos center: "One is to simply extend the fabric of the existing building, not unlike what was recently done at Dulles International Airport to Eero Saarinen's work. Or to step forward and do something that's really tremendously figural. This was done very successfully, I think, at the East Wing of the National Gallery of Art. It's not one of my favorite buildings at all, but I think it's a very successful example of what I'm suggesting to the Smithsonian Institution here."

The Smithsonian's timetable calls for demolition work to take place this year, for 2023 to be devoted largely to design, and for construction of the Bezos project to start in 2024. The institution hopes the venue will open in 2026, the 250th anniversary of the signing of the Declaration of Independence and the 50th anniversary of the Air and Space Museum. **Ed Guntz**



COURTESY HOK



Top: The National Air and Space Museum (1979) and the dining pavilion (1988)

Above: The pavilion abuts the museum's east wing.

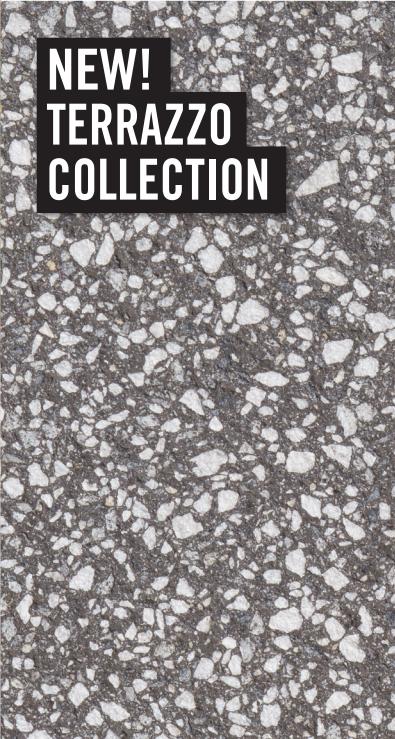
Left: The pavilion's pyramidal form

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10 News

Labor Party

AIA members call for the organization to address workplace conditions.

In March 2021, Chicago architect and AIA member Josh Mings started a new job at Moody Nolan, that year's AIA Firm Award recipient and the largest Black-owned architecture firm in the nation. He said he was handed deadlines requiring 60 to 80 hours of work a week, which became a drain on his mental health. "At the end of the day my brain was fried. There was no room for anything else," said Mings. He resigned this past March after taking a leave of absence. "This profession eats its young whole," he said. "There are many firms that treat employees as expendable."

Asked by *AN* about Mings's experience, Moody Nolan reiterated its belief in equitable and fair employment practices in accordance with U.S. Department of Labor guidelines. In a statement, the firm acknowledged that it "continues to adapt to changing economic tides, shifting our operational practices to accommodate work/life realignment in the hybrid world."

Mings felt that a union might have prevented this kind of burnout, and he's hardly alone. In the wake of a high-profile union push by employees at SHoP Architects' New York office (which ultimately failed) some AIA members are asking for the organization to take a pro-labor stand.

"The AIA has a moment right now to seize on this to make it the best possible for the most people," said longtime member Donna Sink, of Indianapolis.

Sink and others pointed to historic new leadership in D.C. as a sign of progress. Lakisha Woods, AIA National's first Black EVP/CEO, assumed her post at the end of January after Robert Ivy's decadelong tenure. She confronts a workplace landscape where widespread dissatisfaction (generally described as the Great Resignation) has coincided with a union wave in the service and white-collar sectors. The idea that a creative field like architecture is a calling is losing support.

AIA members who agree with that sentiment want the organization to be more proactive in helping secure better working conditions and to adjust who's served by its policies. Cleveland architect and AIA member Ted Ferringer said he wants the organization to take on a "worker perspective" and sees a "new consciousness of workers' rights and workers' issues" on the horizon. "I hope the AIA keeps up with the culture around that," he said.

While there are historical precedents for architecture unions, many AIA members are unlikely to see themselves as workers. A 2020 survey released by the organization foregrounded the fragmented nature of the architecture industry. Of the 19,000 AIA member firms estimated to be responsible for two-thirds of all architecture services and revenue, a quarter are sole practitioners, and 60 percent have five employees or fewer, according to a 2020 survey released by the organization. At the same time, firms with 50 or more people account for more than half of the employment in private practice. (The average firm has 12 employees.) Only 37 percent of people working at architecture firms are women, and even fewer—32 percent—belong to ethnically diverse demographic groups.

The AIA has readily acknowledged this lack of gender and racial equity, as well as workplace bias. Still, the low pay and op-

pressive workloads that architects face make it hard for people without generational wealth or from precarious groups to stay in the profession. Ferringer framed the issue in class terms. "You can have great gender and racial diversity," he said, "but if it's still 95 percent people coming from upper-middle-class backgrounds, there's still only a certain type of diversity happening."

AIA member Gregory Walker, founder of Houser Walker Architecture in Atlanta and a one-time president of his local AIA chapter, is skeptical about unions in architecture. A business owner, he believes that the market is a better tool for disciplining firms that don't offer reasonable work-life balance and benefits. "What I would hope is enough folks walk away from those firms and have the market say, 'This is not a viable business model,'" he said.

Beyond unionization, AIA members said they want the organization to advocate for salary transparency, clear promotion schedules, pay equity, and improved leave benefits, which could be better tools to address workplace conditions at small firms where the ratio of bosses to workers is close to even. One tactic might be tying AIA awards to workplace conditions or executive compensation. "If you don't pay your workers a living wage, you shouldn't be in contention for an award," said Sean Higgins, a Minneapolis architect and AIA member. "If your firm owner makes X amount above the lowest-paid worker, you should not be in contention for an award." (The AIA already requires award recipients to pay interns.) Some would like to see the AIA Code of Ethics amended to create punitive regulations addressing work conditions.

AIA members also say that adjusting how leadership posts are assigned can bring about better workplace outcomes. For example, the AIA sets aside seats for students and associate members on its national board, so one option would be to set aside leadership posts for employees instead of business owners, who are already heavily represented in the highest echelons of the organization.

Sink, who is 55, said it's important to bring young people into the organization's leadership. "They are the ones experiencing the hurricane of issues right now—of not being able to afford housing, having good health insurance, or graduating with enormous debt and living paycheck to paycheck. We need people with that as their lived reality. I would pay higher AIA dues if it meant that younger members of the profession were getting a better life."

AIA EVP/CEO Woods declined an interview with *AN*. She did, however, share a statement about the stressors that plague younger practitioners:

I have a great deal of empathy for architects and emerging professionals when they tell me they are struggling. Identifying and addressing the underlying issues we hear about from members—including salaries, hours, and bias in the workplace—is a critical step to ensuring the profession of architecture remains a force for positive change in society.

All of the AIA members *AN* spoke to identified the culture of architecture as a primary culprit in enforcing punish-



COURTESY THE ARCHITECTURE LOBBY

ing workloads and meager pay, with many pointing out that these attitudes are often ingrained early. "We have a culture that starts in school, of 'It's never enough, you're never done, you can always stay up late.' There's this fetishization of staying up all night," said Marilyn Moedinger, founder of the two-person firm Runcible Studios in Boston.

But Higgins pointed to a deeper logic driving the industry: Cheap labor, either from long hours or from low pay, is profitable. "The intern, the worker, has really been used as a tool to gain profit for the firm owner," he said. "The nature of that relationship can be abused." Unionization is a tool to restructure this power imbalance and is a fundamental part of the critique of architectural practice offered by the Architecture Lobby, of which Higgins is a member. "What the Lobby's trying to do is democratize the workplace," he said.

Closer to home, he's had support from within the AIA. He called Mary-Margaret Zindren, AIA Minnesota executive vice president, an "ally" in addressing labor conditions.

Zindren and AIA Minnesota haven't taken a position on unionization, and she said it's not something members are talking about *with her*. But those who are interested in unionization "are asking for the same things we're saying architecture needs to provide," she said. "There's a lot of efficiency that's been gained in architecture over the last few decades, and yet those efficiencies haven't flowed back to change the expectations of the number of hours that are put in or haven't materialized in benefit to workers."

What AIA Minnesota has done is publicly state its aim to redefine practice along "authentic, equitable, and collaborative" lines. An important vehicle for this effort is the state chapter's 70-plus-member Community of Practice for Culture Change com-

mittee, made up of everyone from architecture students to firm CEOs. These efforts predate the nascent union push at SHoP and include identifying mindsets that hinder or accelerate change. One mindset holding the committee back is that "long hours are a badge of honor and necessary to success in the profession," said Zindren. "I see our role as supporting each individual member's definition of success."

A pivot to this sort of recognition at the national level needn't be pitched as altruism, said Sink. When asked why she thought the AIA should focus on workplace conditions, she replied, "More members."

Ferringer agreed. "The vast majority of members are employees," he said. "Engagement [with the AIA] would significantly improve if worker-members felt that they were members of an organization that was advocating for them. You would hear a lot less of 'Yeah, I'm an AIA member, but what do they do for me?'"

For Lora Teagarden, a member of the AIA Strategic Council, which advises the AIA National Board, it's a matter of talent retention. "We're losing quality minds to other professions," she said. "We have to be able to protect our own. We have to be able to advocate for better lives outside of work as well as in work."

Because the AIA is composed of both firms and individual members, it has many incentives to avoid a pitched fight between capital and labor. But how long can it be avoided, and what are the consequences of delay? Mings, the Chicago architect who left Moody Nolan and has since joined another firm, said that activism in the junior ranks is shortening this time line. "What's great about the generation coming up behind me is that they are really pushing back," he said. "They want to have a voice. They want balance in their life, and not to see 'architect' as their whole identity."

Zach Mortice

Code Breaker

Christopher Alexander, who died in March at 85, offered ways to unf*ck the world.

continued from cover By the time I became aware of him, Alexander was a fading legend, roaming somewhere in the discursive pantheon but absent from the drama at center stage. He would soon retire from his position down the coast at Berkeley, after nearly 40 years of teaching, and head back to England, completing a tour of three distinct Anglo-American academic cultures. Alexander was born in Austria but moved with his parents at the age of two to England in 1938; two decades later, he completed degrees in architecture and mathematics from the University of Cambridge.

He was ahead of a trend—the 1960s would be a blockbuster decade for mathematical and computational research in architecture—but he was also following in the footsteps of a famous compatriot, the Austrian British philosopher Ludwig Wittgenstein. Uncompromising and outspoken, both figures wielded logic in the hope of reconstructing the fallen human world on a basis of rationality. Just as Wittgenstein played “the philosopher who read nothing,” Alexander habitually wore a mask of naivete when delivering cutting criticism that in truth sprang from deep erudition and empathy. “I don’t fully follow what you just talked about,” he told Eisenman during their epoch-defining debate of 1982, after the latter had finished expounding on post-structuralist theory. Then the pivot: Alexander accused Eisenman of “fucking up the world,” to crowd applause. Equal parts hippie-mystic and do-gooder technocrat, Alexander effected a countercultural synthesis that met with popular appeal. Few architects can say as much.

Alexander has long posed a conundrum for architectural historians. When and why did he fall out of favor? The answer surely has something to do with his preference for origins and innocence during a period of great sophistication in architectural theory. Alexander was at heart a structuralist anthropologist turned builder. His breakout book, 1964’s *Notes on the Synthesis of Form*, applied his novel methods to the design of a village in India. European towns and domestic vernacular forms loomed large in his design imaginary. By construing entire sociocultural totalities as his “clients” and working on behalf of their “interests,” Alexander took the architect’s fiduciary duty to its extreme. This approach made sense in the era of Claude Lévi-Strauss and Bernard Rudofsky, but not so much after Jacques Derrida and Edward Said. By the 1990s, Alexander appeared suspiciously paternalistic at best. He was an exemplar of what would later be termed “the public architect”—a conflicted figure in our neoliberal world and simply beyond the ken of an architectural culture defined by the alliance between conceptual art, French philosophy, and the figure of the starchitect.

We’re no longer in that era, and it may be time to revisit Alexander’s lessons. Be warned, however: He had lots of lessons. Alexander’s hesitation to reinvent the wheel of architectural form was paired with a perverse joy in tinkering with methods. For a few years he parsed the built world into mathematical tree structures only to declare a few years later that “the city is not a tree.” He eventually landed on the conceptual model of social networks,

and his pattern-language approach inspired a generation of object-oriented programmers. Alexander, one of the first architect-programmers, was also among the first critics to strike a blow against computation, publishing a diatribe in 1964 under the title “A Much Asked Questions about Computers and Design” calling computer-using architects “misguided, dangerous, and foolish.” (The lesson, in this case, was not to abstain from computation but to avoid foolishness.)

Alexander did everything to alienate himself from the architectural intelligentsia because he could: Unlike his peers, he had found a large and receptive audience outside the discipline. New Urbanism was the final umbrella; Alexander was a fixture at the infamous Prince of Wales’s Institute of Architecture toward the end of his career. He also built a lot of buildings—somewhere in the 100 to 400 range, apparently. Many are fascinating. The Eishin School at the edge of Tokyo evokes an imagined northern European village, and its Studio Ghibli quality feels as contemporary as ever.

Even as Alexander applied strategies that ran afoul of the global architectural elite, his work could be equally off-putting, if for different reasons. Where “critical architecture” of the Eisenmanian variety toyed with people’s neuroses by playing up the disjunctions of the metropolitan condition, Alexander weaponized architectural nostalgia to generate an exaggerated sense of belonging. He peddled a double fantasy, combining a myth of cultural coherence with a dream of benign environmental determinism—as if putting up a few buildings of just the right type could somehow cure the ills of the world.

Which is just to say that, through his extreme partisanship, Alexander effected a sort of balance in a culture of architecture trending in the opposite direction, toward individual artistic innovation. At his best, he stood for deep intelligence and wit with which to combat cynicism. Alexander will likely find a place among the best-known architectural theorists—alongside Vitruvius, Alberti, and Le Corbusier—with a method well-suited to a world gone systematically awry in so many ways.

Matthew Allen is a visiting assistant professor at Washington University in St. Louis. His first monograph, *Architecture Becomes Programming: Modernism and the Computer, 1960–1990*, will be out in 2023.

Read more at archpaper.com

Full Circle

By redrawing the way we design, build, and “unbuild,” circularity could reduce forced labor in the building industry.

Architects and engineers do not make buildings. We translate spatial needs into instructions for construction in the form of drawings and specifications. Depending on the size of a project, these instructions can result in tens if not hundreds of thousands of actions.

If we see architectural design not as envisioning future space but as defining a series of instructions for future actions, we ought to be able to examine these strings of actions beforehand and reduce the amount of harm they may cause. The activities we prescribe typically involve the use of energy to relocate material—assemblies of atoms—from one location on this planet to another. Laborers arrange them into a temporary constellation, which we might call a building or a city.

As architects, then, we organize energy and materials. Some of this energy might be forcibly extracted from humans, i.e., slavery, which none of us want. Automation is one way to avoid this outcome, because using robots rather than humans minimizes the risk of exploitation. (This assumes that the energy and material needed to create and power the robots are ethically obtained.) However, I propose another way that would still allow humans some input in the construction process while also lessening the sting of exploitation.

We can begin by looking at supply chains. The more complex and global a chain is, the greater the risk of discovering modern slave labor. As I see it, the problem lies with our current notion of supply, which narrowly describes linear material flows. But what if we were to reconceive supply in terms of circularity? Changing the way we source materials—away from mining the planet toward mining the built environment—would eliminate extraction, processing, and shipping at the top of supply chains, where forced labor is the most prevalent.

Circularity offers obvious environmental advantages. Apart from thwarting the depletion of natural resources, reaching a material recycling rate of 85 percent across our economy would reduce CO₂ emissions by up to 50 billion tons, the equivalent of taking 10 billion cars off our roads. Applying this same lens to labor yields even more benefits. For example, mining existing buildings close to home for materials allows more control over labor conditions and strengthens local economies. One calculation estimates that every 10,000 tons of recycled waste can create more than 100 jobs, while the repairing and leasing economy could create exponentially more.

Construction is the most extensive material storage and waste stream in the economy. By changing the industry’s perspective on materials and acknowledging their economic value even past their ostensible “use-by” date, we could remake the built environment into a material depot that we can return to again and again.

In recent years, reuse has become influential among architects and developers. Though this is encouraging, we think of it almost exclusively on the scale of a single building. Scaling up to the level of supply chains changes our understanding of what we do. Design becomes the act of temporarily allocating a finite amount of material to accommodate specific activities. It’s

clear that, framed in this way, the level of care and precision we expend in assembly should also be given to disassembly.

To preserve the value of materials and reallocate them for future functions, we need to know specifics about their type and quality. Driven by urgent sustainability goals, numerous start-ups that have appeared in Europe capture essential material information and package it in a raw materials passport made available via online platforms such as RotorDC. These platforms essentially function as a public library of materials in the built environment. Designers work with materials available in this library, much as a chef prepares a meal based on what is in season.

Notwithstanding the environmental, social, and economic advantages, circular construction will become interesting only when accepted as a viable alternative. Getting to that point will be tough. There is a lack of familiarity with these concepts among builders, clients, financiers, and other parties in the chain. If investors cannot assess the value of the raw materials in a (dismountable) building, they cannot include them in the spreadsheet. Moreover, modular or dismountable construction is currently more expensive than linear construction approaches because of its innovative nature and the limited supply of circular construction solutions.

Government policy can jump-start the adoption of circular construction in numerous ways. It can mandate circularity for public projects, spearhead data gathering, develop and disseminate knowledge, and initiate standardization, while involving all partners in the chain at every turn. Because it takes years before a project needs to be renovated or dismantled, circular construction must be stimulated, possibly through tax incentives and regulations, so that companies can test new building methods and financial structures.

All of this could greatly benefit labor conditions, as it would involve a more developed local industry of de- and reconstruction. OSHA and other organizations would set standards for health and safety on deconstruction sites, which would require a more knowledgeable and therefore better-trained labor force. Construction workers would become material librarians.

Here, I should note that the United States still builds more buildings than it demolishes, so net imports of raw materials will continue. Circular construction is thus not the catchall solution to ridding the world of modern-day slavery in the built environment, but it can certainly contribute to that task.

This text is adapted from a prompt the author prepared for a workshop during the Design for Freedom Summit that took place at Grace Farms on March 31.

Florian Idenburg is a cofounder of SO-IL, an architectural design firm based in Brooklyn. He is also part of the Design for Freedom Working Group, which aims to eradicate modern slavery from the built environment.

12 Op-Ed

The Politics of Memory

Calls for a permanent COVID memorial neglect our fragmented political culture and the long road to recovery that lies ahead.

In early March, just as case numbers and mask requirements were dropping, the *New York Times* editorial board published an opinion piece titled "Why New York Needs a Covid Memorial." City and citizens, the op-ed argued, would be stronger if it could "confront its grief instead of trying to outrun it." The authors were necessarily hazy about shape and size, style and site, but particular about the need for a place for people to gather and mourn.

In year three of the pandemic, the United States is just shy of a million COVID-related deaths. Global deaths are six times that number, with each data point representing an individual with a constellation of loved ones, friends, co-workers left behind. Clearly, there's a need to honor the dead. But when and how?

In a country fragmented by pandemic politics, there is no mandate for an architecture of remembrance. Thousands of white flags, a COVID memorial artwork by Suzanne Brennan Firstenberg titled *In America: Remember*, covered the National Mall in Washington, D.C., last fall, but the installation lasted only a few weeks.

In blue counties like Los Angeles, where I live, day-to-day COVID anxieties have lessened, but the worries about impending Omicron variants remain heavily present. There's not yet the bandwidth for reflection. In red counties, places resistant to vaccines and aswirl in 5G conspiracy theories, recognizing loss would legitimate factual realities some would rather circumvent.

Between these two poles is a yawning gap where lives used to be.

Left with absence, rage, and uncertainty, but no consensus or unity, we face a question: Are we (we the country, we the field) ready for a COVID-19 memorial? Should we start bracing ourselves for the inevitable ideological fights, both in the political arena and within architecture culture? Just wondering who might be selected to design any memorial is certain to provoke disagreement.

In fact, it already has. Last year, *The Atlantic* and *New York Magazine*, through its offshoot Curbed vertical, asked artists, designers, composers, and architects to speculate. MASS Design Group's Michael Murphy suggested a spectacular forest on the Mall. Daniel Libeskind inexplicably caged Lady Liberty in half a million steel bars. And Sekou Cooke proposed an Unmonument, an empty pedestal reminiscent of the base that once held a statue of Confederate general Robert E. Lee in Richmond, Virginia, reminding readers that not only are monuments temporary, many also come with deeply racist histories.

Then in July, Dezeen reported that Heatherwick Studio had met with U.K. government officials to discuss COVID-19 commemoration. The very idea that the same designer who authored *Vessel*, an extravagant, suicide-enabling, doner kabab-resembling sculpture and the billionaire folly Little Island could be picked for such an important task set off ripples of dissent across the internet. Almost immediately, the studio sought to distance itself from any monument, rejecting the claims and noting that no plans to design a memorial were ever in the works.

Maya Lin's Vietnam Veterans Memorial is often cited as a universal monument.

Her piece comes up in nearly every recent article that tries to unspool what a COVID-19 memorial should look like. It's celebrated for achieving formal and emotional cohesion: a simple black marble wall inscribed with names, a sculpture that invites collective remembrance across all political stripes. But when it opened on the National Mall in 1982, just seven years after the fall of Saigon, it sparked criticism of its design and apolitical position on a war that had deeply divided the country and created cultural fissures that are still with us today. "It was extremely naïve of me to think that I could produce a neutral statement that would not become politically controversial simply because it chose not to take sides," wrote Lin in a 2000 essay for *The New York Review*.

According to James Reston Jr., author of *A Rift in the Earth: Art, Memory, and the Fight for a Vietnam War Memorial*, the design was deemed too abstract and not sufficiently patriotic. Lin's identity as a young Chinese American woman came under attack. Critics claimed it insulted veterans—a black, gravelike trench as opposed to the gleaming white marble monuments elsewhere on the Mall.

In 1984, a supposedly corrective statue was added nearby: a representational bronze depicting three weary servicemen by prolific monument maker Frederick Hart. Lin saw its installation as an attempt to undermine her design, which has since become a model for nonfigurative memorials. "It's taken me years to be able to discuss the making of the Vietnam Veterans Memorial, partly because I needed to move

past it and partly because I had forgotten the process of getting it built," wrote Lin in the introduction to her 2000 essay.

The process of memorialization is painful. As much as we want something—architecture, art, landscape—to initiate acts of collective healing, there's no balm other than the steps of grieving. Our present moment is still unbearably raw. I watch case numbers tick higher because of the BA.2 variant and read indictments of Trump supporters who stormed the Capitol on January 6, all against the backdrop of the war in Ukraine. News reports announce that Kyiv and Odesa residents stacked thousands of sandbags to protect civic monuments, symbols of cultural history and independence.

I'm reminded of a line by artist Robert Smithson, who in discussing entropy and the work of his 1966 contemporaries wrote, "Instead of causing us to remember the past like the old monuments, the new monuments seem to cause us to forget the future." These new monuments, made out of plastic or light fixtures, not marble or granite, were indicative of his present moment, and rather than being built for the ages, were suspended in time.

Eagerness to make a memorial to those lives taken by the pandemic anticipates its end. It's motivated by the need to mourn but also by the multiple polarizing desires to put things (protocols, lockdowns, illness, death) in the past so that we might get quickly to a COVID-free future—a return to normal that proves ever more elusive. Instead of monuments we are surrounded with entropic architectures.

Geoff Manaugh and Nicola Twilley begin their 2021 book *Until Proven Safe* with the description of an Econo Lodge sign painted black to indicate the use of the former motel as a quarantine site. They trace the snaking lines of yellow barricades used to cordon off infected neighborhoods in Wuhan, China, and draw parallels with the markings and battens used to isolate plague-infected households in 16th-century Italy.

But by and large, the impact of the pandemic on the built environment in the United States is a series of less ominous banalities. Outdoor dining sheds are weathered after another winter. Portable tents and vinyl signage assembled as testing sites still crop up in parking lots. Stickers and tape installed on floors and sidewalks two years ago to remind people to stand six feet apart are now peeling, gummy patches.

These are our everyday memorials. Small acts of memory that are more akin to artist Robert Smithson's *A Tour of the Monuments of Passaic, New Jersey*, a celebration of crumbling infrastructure rather than heroic statuary. At some point, not now, an architectural vision for a monument may emerge and gain traction. But for now, remembrance is in smudged Plexiglas at the bodega register and empty hand sanitizer kiosks.

Mimi Zeiger is a Los Angeles-based journalist, critic, and curator.

Suzanne Brennan Firstenberg's *In America: Remember*, installed on the National Mall



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Project Spotlight: The Duke Ellington School of the Arts, Washington D.C.

Located within a stately yet aging building from the 1890s, the Duke Ellington School of the Arts (DESA) recently underwent a major overhaul resulting in one of **'the most daring examples of contemporary preservation ever attempted.'**

The historically preserved grand portico offers a stark contrast to the modern 800-seat orb-shaped performance theater suspended at the physical and metaphorical heart of the building.

The 80-ft skylight within the Ellington Theatre Roof (shown above) casts light throughout the building while offering spectacular views across Washington D.C.

Find out more about this significant project by scanning the QR code (right) or by visiting: graphisoft.com/us/duke-ellington



14 In Construction

Stonehenge on the Upper West Side

Studio Gang's Gilder Center undulates with shotcrete and granite.

Gilder Center for Science, Education, and Innovation

Architect: Studio Gang
Executive architect: Davis Brody Bond
Location: Manhattan

Construction manager: AECOM Tishman Construction Corporation
Structural engineer: Arup
Facade engineer: Buro Happold Engineering
Facade consultants: Hofmann Facades, Island Exterior Fabricators
Shotcrete subcontractor: COST

The American Museum of Natural History (AMNH) opened in 1877 on a barren stretch just opposite Manhattan's Central Park and has since grown into a 15-building campus of divergent typologies and styles. The latest entry, designed by Studio Gang with Davis Brody Bond, stands out by fitting in, thanks to an eye-catching, yet reverential Milford pink granite facade on an undulating shotcrete base. The stone variety matches that on the exterior of the main wing.

The Gilder Center for Science, Education, and Innovation is meant to bolster the museum's science and research programs while improving circulation among its many wings. But on the Upper West Side, where historical preservation has a militant edge, aesthetics can't be ignored. According to Weston Walker, a partner and design principal at Studio Gang, the design team embraced AMNH's ever-changing nature to win over the Landmarks Preservation Commission, which reviewed the project.

"One of the things that became clear in the review process is that the museum is not architecturally or historically fixed," Walker told AN, "but rather an evolving collection of interconnected buildings constructed and changed over time—a kind of microcosm of the evolution of New York City's architectural heritage."

Located along the campus's western perimeter, the 230,000-square-foot project rests on a robust concrete foundation that once anchored the museum's dynamo-populated power plant. Reusing the existing foundation saved both time and money, though with a budget of \$431 million, that wouldn't seem to have been a major concern. Shoring and underpinning were applied as needed to stabilize the adjacent structures.

Studio Gang's design called for a windswept outcrop with a four-story atrium crisscrossed by stony bridges. To achieve the building's plastic form, the architects elected to use structural shotcrete, which (as the name suggests) involves projecting concrete at a high velocity onto internal rebar support. Compared with the preplanned method of casting concrete, the process for "shooting" shotcrete feels almost improvisatory, involving an assortment of tools such as rods and trowels. Almost. At the Gilder Center, the shotcrete ranges in thickness from 4 to 24 inches to accommodate the complex geometries. The exact calculations were carried out by structural engineer Arup.

Walker explained that "a lot of the curvature in the building's form is enhancing the structure's arching action—those curves help move gravity loads from horizontal to vertical. It's an age-old structural geometry that we were able to interpret with a contemporary material application." Studio Gang erected several mock-ups to "better understand what kind of forms and surface qualities we could achieve, and to learn about the process of applying the shotcrete from the skilled tradespeople so that we could properly design the building within the

framework of this unique process."

The facade installation is set to begin in a few weeks' time. The pink granite blocks seen in renderings will be cut and assembled first as "mega panels," a technique that will speed along transportation and installation. (Hofmann Facades and Island Exterior Fabricators, acting in coordination with facade engineers from Buro Happold, will oversee the process.) The outsized panels, with their varying widths and courses, have a grain recalling a geological stratum, as well as the weathered stone masonry of the adjacent structures.

Semicircular windows cut into the granite-decked facade maintain a minimal window-to-wall ratio, a key part of the project's strategy to reach LEED Gold certification. The glazed wall above the entry is shaded by a building nub, while a large skylight will pour light into the building's atrium and its many adjoining bridges and corridors.

The Gilder Center is scheduled to open this winter, and according to Studio Gang founding principal and partner Jeanne Gang, "The architecture intends to kindle the spirit of discovery and offer an invitation to explore." A fitting aspiration for this time-honored institution.

Matthew Marani



TIMOTHY SCHENCK/COURTESY THE AMERICAN MUSEUM OF NATURAL HISTORY



COURTESY NEOSCAPE, INC./AMERICAN MUSEUM OF NATURAL HISTORY

Above: The front entrance of the Gilder Center for Science, Education, and Innovation

Below: What the same elevation will look like with the Milford pink granite cladding

Opposite, top left: A rendering of the four-story atrium

Opposite, top right: The center's 360-degree Invisible Worlds Theater under construction

Opposite, below: Workers installing a large skylight

15 In Construction

May 2022



16 Studio Visit

Shapes in Space

Through a series of inventive projects in Buffalo, Davidson Rafailidis explores its own distinctive take on adaptive reuse.

Through close observation and construction prowess, Stephanie Davidson and Georg Rafailidis elevate renovations into something special. "We're interested in investigating spatial types not defined by use," Davidson told *AN*—meaning not through program. For Rafailidis, that translates into championing values of "spatial character, definition, and specificity."

The couple met while studying at the Architectural Association in London. Both were influenced by their time in Berlin, where they lived subsequently. Rafailidis studied the

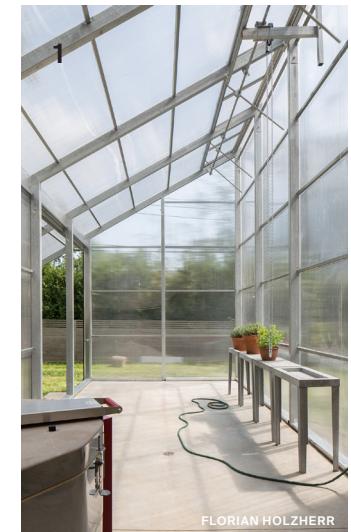
socialist-classical facades of Karl-Marx-Allee for a thesis completed under the late Mark Cousins, while Davidson worked under Judith Haase at the boutique studio Gonzalez Haase. In 2010, the couple decamped to Buffalo, New York, for academic appointments; Davidson now teaches at Toronto Metropolitan University, while Rafailidis is at SUNY Buffalo. They formalized their working partnership in 2012 after winning a design competition organized by the Storefront for Art and Architecture.

Once in the Bison City, they befriended a

local microdeveloper, precipitating several commissions. Faced with the predicament of Rust Belt America, they began thinking of creative ways to use the scrap heap of available building stock around them. (A similar pileup of imaginative documentation is seen on their website, designed by Berlin-based graphic design studio Fuchs Borst.) "The buildings we've ended up working with have gone through crazy chapters," Davidson said. "We've latched onto that history and, rather than try to suppress it, we learn from it and let it inform how we work."

We want our interventions to allow for further unpredictability."

Adaptive reuse interests the pair because "there's a building that talks back to you," Rafailidis said. "When we look at the built environment, it's often used in different ways than anticipated. Buildings develop their own life, and it gives them a robustness to stand the test of time." **Jack Murphy**



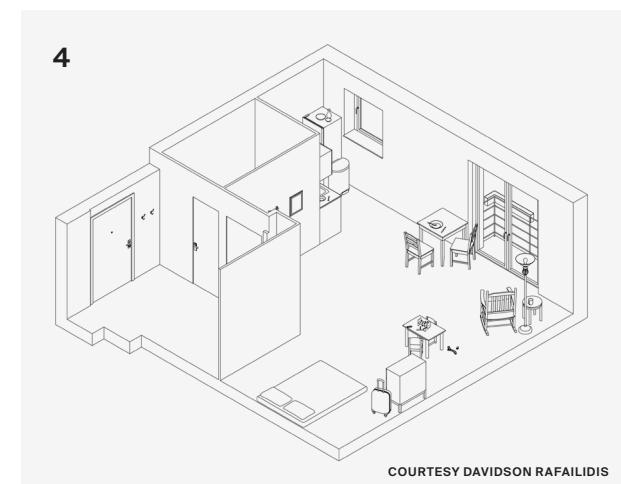
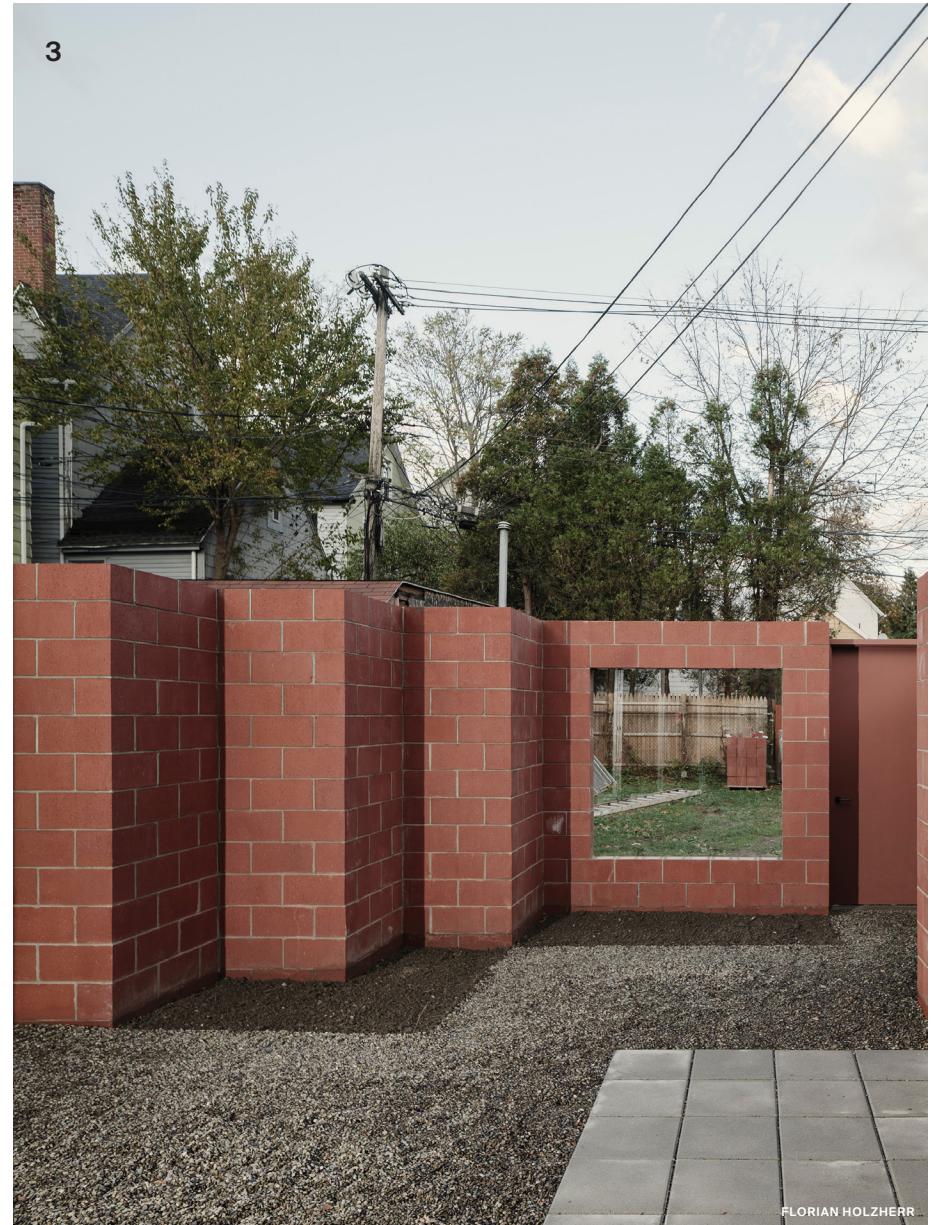
FLORIAN HOLZHERR

FLORIAN HOLZHERR

FLORIAN HOLZHERR

17 Studio Visit

May 2022



1 He, She & It, 2016

A spiky addition behind an existing Buffalo home exaggerates mundane requirements to great effect. Three simple volumes, each with its own function (a greenhouse and studios for a painter and a ceramicist), intersect and create an intricate section. On the ground floor, folding walls reinforce connectivity—or separation—between the spaces. According to Davidson, she and Rafailidis wanted to avoid a too-tidy solution. “Rather than merging and negotiating the different spatial requirements in one volume, we ‘personified’ three mono-pitch sheds of similar sizes and collaged them together,” she said.

2 Big Space Little Space, 2018

This 1920 masonry back building once housed a taxicab repair shop. Davidson Rafailidis repurposed it as a residence for a downsizing couple who want a live-work space. Counterintuitively, the designers kept an existing partition and compressed the essential pieces of residential life into a small zone. They retained the exposed concrete floor, punctuated with drainage grates, and stained wood rafters. They also cut round skylights into the ceiling and perforated a weathered security shutter at the entrance with little circles; at night, the fixture is “a glowing moon,” Rafailidis offered. “The goal,” added Davidson, “was to respond to the idiosyncrasy of [our clients], without making it too imposing for the next owner.”

3 Together Apart, 2020

The name of this Buffalo cat cafe alludes to the spatial division of its plan. Building code requires spaces for food preparation and cats to be fully separate, but rather than erect a clear binary, Davidson Rafailidis installed a zig-zagging brick-and-glass partition. The solution created a compelling middle ground filled with details that blur zones, such as when terrazzo flooring masses into plinths that turn up into countertops. Even more curious is the backyard court, which “reads as an unfinished building,” Davidson said. “It’s structurally overdesigned so that it invites a roof, but that’s not part of the current design. It’s a very abstract trigger for what we hope will be continued construction on that deep lot.”

4 Drawing as Advocacy, 2022–

An ongoing research project with Mary Vacaro, a PhD candidate in the School of Social Work at McMaster University in Hamilton, Ontario, Drawing as Advocacy focuses on the long-term needs of homeless women and gender-diverse individuals. Working from existing buildings, the renderings and drawings (made with Roxana Cordon-Ibanez) depict simple interiors furnished with household objects. Davidson said the initiative explores the idea of “space matchmaking.” “We want to pair these persons’ narratives with spaces that exist and drawing them furnished with the objects and the appliances that they are wishing for, which are incredibly modest: a hot plate, a bed with a phone, or a door with a good lock,” she said.

Radically Open

Selldorf Architects' expansion of the Museum of Contemporary Art San Diego looks out while inviting you in.



NICHOLAS VENEZIA/COURTESY SELLDORF ARCHITECTS

Museum of Contemporary Art San Diego

Design architect: Selldorf Architects

Executive architect: LPA

Architect of record: Alcorn & Benton Architects

Location: La Jolla, California

General contractor: Level 10 Construction

Construction managers: Gafcon, HR

Weatherford Company

Structural design engineer: Guy Nordenson and Associates

Structural engineer of record: Simpson Gumpertz & Heger

MEP: Buro Happold

Landscape architect: LPA

Civil engineer: LPA

Lighting: Renfro Design Group

By geography, economics, even postal demarcation, La Jolla, California, stands apart from the city of San Diego, of which it is nonetheless a constituent neighborhood. Located 12 miles north of downtown, La Jolla is a breathtaking place, known for its clement weather, glinting sunlight, sandy beaches, and craggy sandstone cliffs that elevate the village above the Pacific Ocean. It is also home to the Louis Kahn-designed Salk Institute, a magnet for architectural pilgrimage if ever there was one and certainly one of the best examples of making the most of a site of exceptional natural beauty. It raises the question, what do you do when you stand at the edge of eternity? The answer: Gaze into it.

The Museum of Contemporary Art San Diego (MCASD), whose foundation building is also in La Jolla, has never enjoyed the same level of prestige. (There is another location in downtown, a kunsthalle-style exhibition space

in the former baggage building of the Santa Fe Depot train station.) Despite being, like Salk, perched on a precipice above the rolling waves, the museum never fully embraced its enviable location. The one exception to this (and it's a big exception) is *7'2"3'4"*, a 1997 installation by Robert Irwin that cuts three square voids into the tinted windows of a west-facing rear gallery, offering panoramic views of the seaside. Irwin's work makes the viewer aware of the phenomenology of light and how much of an impact any mediation of it has. Through the tinted glass, the ocean and the palm trees and the strollers on the shore appear subdued. Peer through the holes, however, and you are confronted with the unadulterated photons of our raging star and the briny tang of the sea breeze, which slaps you in the face like a wet fish.

In 2014, MCASD hired Selldorf Architects of New York to renovate and expand its La Jolla HQ. Catching up with Salk was no doubt part of the equation, as was adding enough space to showcase the museum's impressive permanent collection and making the institution a more inviting and accessible place for all. MCASD's first home, when it was founded in 1941 as The Art Center in La Jolla, was the former residence of Ellen Browning Scripps (one of the town's foremost philanthropists), a 1916 house designed by noted early modernist architect Irving Gill. Over the years, the house went through a number of renovations and expansions, several by local firm Architects Mosher Drew from 1950 to 1980, which added an auditorium that housed the La Jolla Music Society, among other programs. In 1996, Venturi Scott Brown and Associates (VSBA) added a gift shop, a cafe, an entry lobby known

as the Axline Court, and two colonnades of short, plump Doric columns topped by steel pergolas that fronted the Gill house and shaded the entrance.

When Selldorf's design was unveiled in 2018, there was a tremendous outcry from the architecture community. The proposal removed VSBA's colonnades, thus exposing the Gill house, and chopped away one bay of its addition to make room for a new lobby. Two years before, Robert Venturi and Denise Scott Brown had been recognized, perhaps belatedly, with the AIA Gold Medal, the first time the award was given to a couple. At the time, postmodernist architecture was enjoying something of a renaissance, particularly among the younger set, who, oedipally or not, were looking to buck the blandness of the neo-modern moment. Several screeds against Selldorf's design were published (including in this publication) decrying the violation of this or any VSBA fabric, but the argument may have been overstated. As important as Venturi and Scott Brown are to architectural history and discourse, they did not build their reputation on museum design.

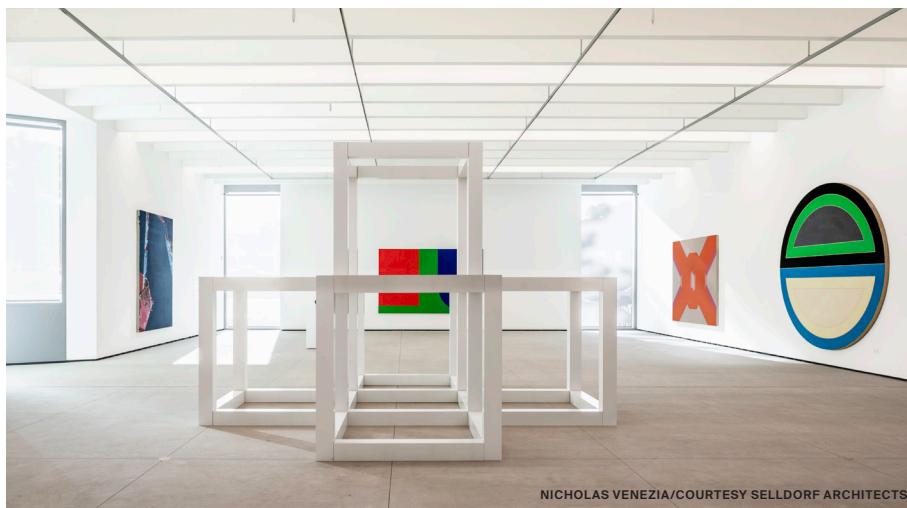
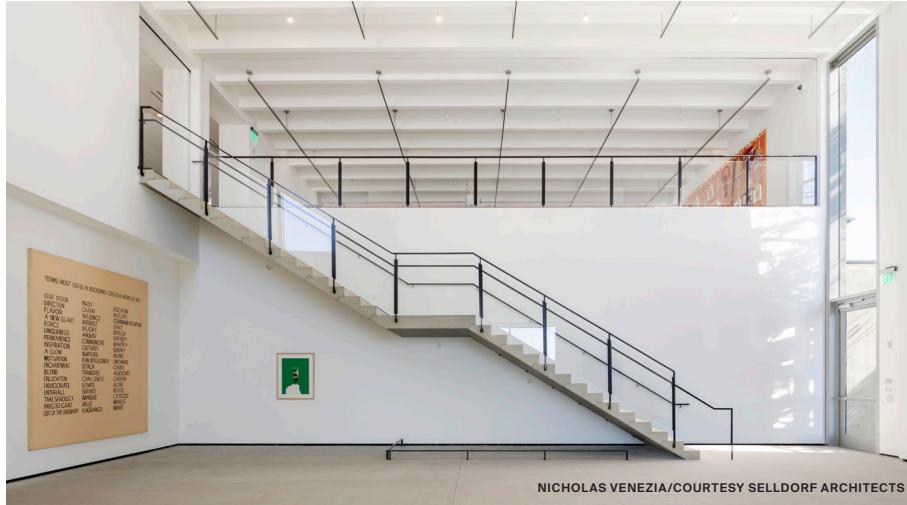
While objections to Selldorf's proposal didn't derail it, they did motivate Annabelle Selldorf to reach out to Scott Brown. The two have reportedly struck up a friendly correspondence, a good thing, considering Selldorf is also updating the National Gallery in London, including its VSBA-designed Sainsbury Wing. And to look at the completed work at MCASD (and I admit I never visited its previous incarnations), it's hard to find much to complain about.

Selldorf's approach is one of, as her firm's architectural statement asserts, "harmonious contrast." The Gill house and VSBA addition are white stucco on the exterior with rectangular

windows and large arched apertures. Selldorf's expansion is board-formed concrete and travertine panels with large rectangular windows and aluminum brise-soleils. Its variegated colors closely resemble La Jolla's sandstone cliffs. The Mosher Drew-designed auditorium, now the Strauss Main Gallery, juts out over this assembly, its extra height soaring far above what current zoning allows. Viewed from the ocean side, where it spills down the cliff face, MCASD's accretion of parts appears like a condensed version of a seaside village, which, all things considered, is appropriate for its location in a seaside village.

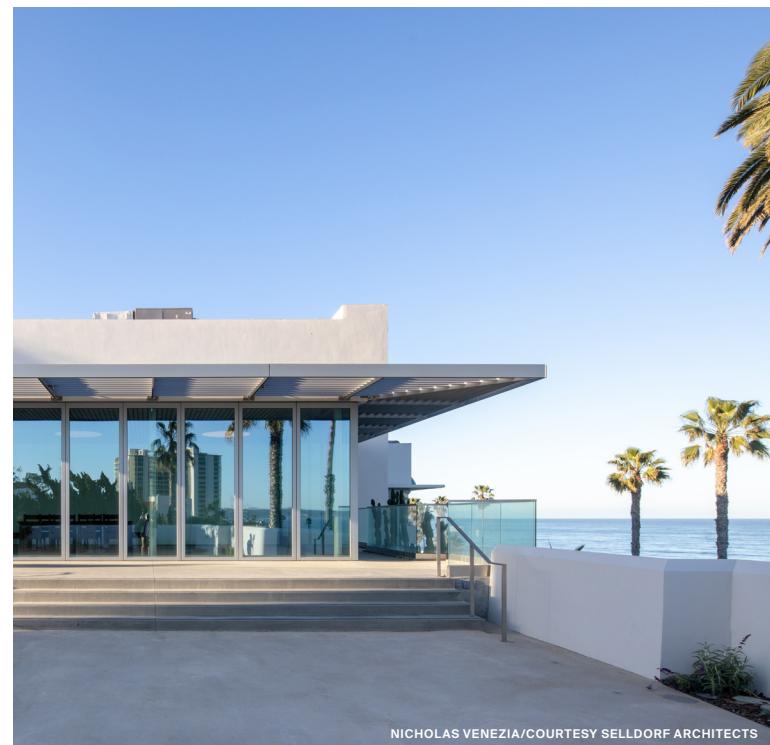
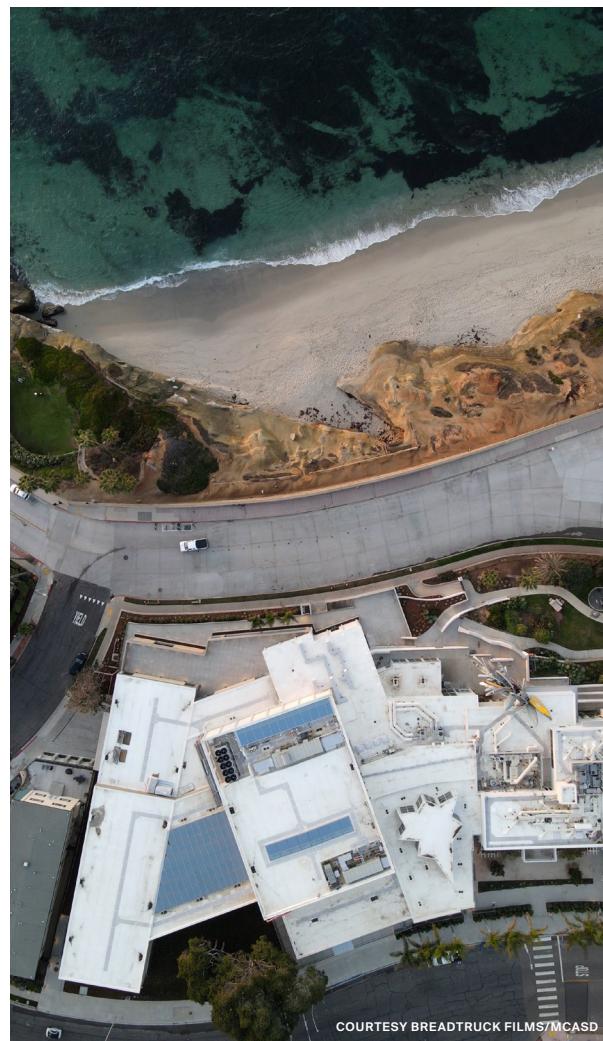
Inside, the existing travertine floors give way to concrete and maple wood floors in the addition. But this, along with the varying smells, is the only indication that you are passing from old to new. Otherwise, the spaces flow together more or less seamlessly. The fact that each gallery is a different size, and often a different shape (trapezoidal galleries mark the collision of Selldorf's spaces with those in-situ), means that the accreted nature of the building never really becomes too glaringly apparent or, at any rate, a problem. This variety certainly will give MCASD's curators a lot of possibilities to play with.

More remarkable is the proliferation of windows and daylight throughout the project, which is taken to an extreme. On the Prospect Street side, large storefronts look out onto the village—no doubt part of the effort to make the museum more inviting and accessible. To the south, a full-height window, tilted slightly, exhibits the beach-shack vernacular of the neighboring Scripps Inn. And on the west, of course, large panels of glazing open the interior to the mesmerizing expanse of the Pacific. It's not Salk, but it's not bad.



How refreshing to walk through a museum that is so radically open to its surroundings! Looking outside and having one's eyes cleansed by daylight and the sight of wind whipping the palms is a true antidote to the exhaustion that can set in after too much time is spent in an insular temple of art. I do wonder whether the windows will be kept as open as they were during the press tour. After all, daylight—even daylight passing through cutting-edge glazing—has its degrading effects on artworks. Being able to peer inside from the street is also a boon, as it does seem reasonable to suspect that seeing what's there will break down some of the more intimidating aspects of the museum experience, thus making MCASD easier to enter than your average art fortress.

On the other hand, La Jolla itself isn't the most accessible or inviting place. Locals, in fact, brag about its inaccessibility. "There are only two ways in and out," one put it to me. And so, though the architecture has done its job admirably, it's hard not to walk away feeling a little twinge of irony. As with the sculpture that has long occupied a place of honor at MCASD's front, Jonathan Borofsky's shout-out to workers everywhere, *Hammering Man*, one questions what this very accessible museum is doing in the Beverly Hills of San Diego. **Aaron Seward**



Facing page: The museum's new entrance

Top left: The addition's main, split-level gallery

Top right: Windows in the gallery frame the ocean and sky. Andy Warhol's *Flowers* (1967) hangs to the left.

Middle: Sol LeWitt's *Six-Part Modular Cube* (1976) lies at the center of another gallery

Above: The rooftop pavilion and terrace

Left: MCASD's oceanfront campus

20 Crit

Dynamic Duo

Comprising two buildings, Columbia University's new business school presents a dynamic face to a growing campus.

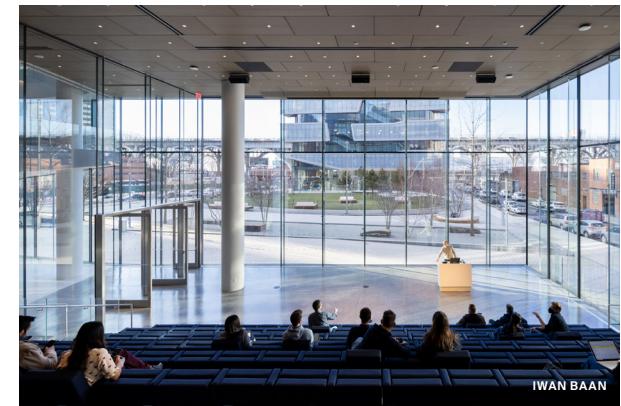


David Geffen Hall and Henry R. Kravis Hall
Design architect: Diller Scofidio + Renfro
Project architect: FXCollaborative
Location: Manhattan

Construction manager: Turner Construction
Exterior enclosure contractor: W&W Glass
Facade consultant: Arup
Glass: Sedak Glass, AGC Interpane Glass
 Germany, Cricursa Spain, Pilkington Glass
GFRG: IDA Exterior Systems and DKI/David
 Kucera Inc.

We almost had it all. For one fleeting interval in the early 1930s, Columbia University entertained the idea of building an enormous skyscraper smack in the middle of its Charles McKim-designed campus in Morningside Heights, Manhattan. As documented in Barry Bergdoll's *Mastering McKim's Plan*, the scheme would have called for a looming steel-frame tower in a deco-sized version of the same neoclassical style as Low Library, the domed masterpiece to which the high-rise would have served as a dramatic backdrop. Better still, in one proposal from William Boring, dean of the architecture school, the addition was to have been constructed directly atop University Hall, a never-completed McKim project that would act as a grand base onto which successive floors could be added in stages. As the institution grew, the new building might have grown with it, ascending year by year into the heavens.

What did we get instead? In 1964, on the very site that could have been academia's answer to the Chrysler Building (or better: a Beaux Arts answer to Pitt's Cathedral of Learning), the university erected Uris Hall, a building whose name could be called Dickensian if doing so were not unfair to Dickens's own Uriah Heep. It's that bad—a concrete, tin-trimmed cash register, appropriate only to the degree that it was built to be the home of the Columbia Business School (CBS), which it has remained ever since. Its construction was a calamity in more ways than one, blotting out the biggest square in the McKim grid while also displacing the grand



athletic facility that was meant to go there. The administration would go on to claim (falsely) that it had to put the school's new gym in neighboring Morningside Park, touching off the massive student protests of 1968 and all their lamentable sequiturs.

But that's in the past—supposedly. Columbia has just finished a new home for its business school, located on an entirely new campus, the Renzo Piano-designed satellite in nearby Manhattanville. Designed by Diller Scofidio + Renfro (DS+R), working alongside FXCollaborative and with a landscape scheme from James Corner, the facility is in fact two buildings, David Geffen Hall and Henry R. Kravis Hall, the latter named for the billionaire financier who underwrote most of the project. "Originally it was going to be just one building," noted FX's Sylvia Smith on a recent visit: Apparently, while reviewing Piano's master plan with university administrators, Kravis noted the pair of volumes next to the smaller, wedge-shaped parcel that had originally been intended for CBS. He took a shine to the twofer and kicked in \$100 million to make it happen.

Linked via an underground service passage, the structures do in fact operate as a fairly harmonious duo, with a loop-shaped patch of lawn in the middle acting as the main route from one to the next. "We've always been interested in blurring the lines between social spaces, learning spaces, faculty spaces," said Charles Renfro, who served as project leader for DS+R. As with the park-cum-circulatory plaza, the architects took the whole double-site scheme as an opportunity to create a series of connections, opportunities to mix and mingle various parts of the program within and between them. In each building, prominently featured staircases zigzag down the facade past glass-enclosed reading rooms, with offices abutting outdoor terraces abutting foosball-equipped rec rooms. The compressed, overlapping spatial logic of the interior finds expression in both structures' wedding cake-like envelopes, with floor plates slipping out in jagged layers and popping projections. For all their similarities, the two also

complement each other in a gratifying, rhyming sort of way—Geffen the smoother and more sedate, its pendant more muscular. "This one's Michelangelo," said Smith, pointing at Kravis. "The other is Borromini."

While they may or may not measure up to the masters, there's no question that the pair of buildings represent a step up for CBS and one that betokens a larger shift. The program's leadership has made plain in recent years its intention to run the business school in a way that is not simply business as usual, turning out "builders of enterprises that create value for their stakeholders and society," as its mission statement puts it. Inclusion, community, and social entrepreneurship are now regular staples in the institution's literature and in its curriculum—as they are in the new buildings, where on the same visit multiple meetings and lunches were underway for South Asian, African American, and female students and visiting executives. Banishing the dreary, double-loaded corridors of Uris, the school is evidently looking to banish the dreary double-loaded businessman of yesteryear, inaugurating a new era of purpose-driven profit (or perhaps the other way around). The pivot is especially meaningful given the new school's location, with CBS and indeed the whole Manhattanville development located at the westernmost edge of Harlem, right in the middle of a former industrial zone in a marginalized, low-income community. All that transparency and shared green space, all that blending of townish and gownish functions—all of it is aimed at announcing the new role of the university as an integral part of the city and the world.

Again, a step up, maybe—but on a metaphoric staircase no less tricky and winding than the ones in Kravis and Geffen. Renzo's first building for the Manhattanville campus, the Jerome L. Greene Science Center, declared the political and economic intention of the whole undertaking. Clean and white and glassy, but with an enormous smokestack protruding from the roof, the building was a factory: Just like the factories that once packed the neighborhood, only instead of turning out Studebakers, this

one would manufacture Knowledge. That vision of the postindustrial global future, conceived over 20 years ago when Columbia first began its push into Manhattanville, seems more than a little quaint at this point. With the completion of the new business school, one senses all too acutely the contradiction of a campus becoming more cogent and aesthetically appealing, even as the very businessy premise behind it—one of endless institutional growth—appears less and less sustainable.

The challenges to that model seem to multiply daily. What of the demands of Columbia's newly unionized graduate students? What of the scarce affordable housing stock likely to vanish as the expansion rolls on? And what, oh what of the poor Morningside campus, where the university has apparently decided to leave Uris almost entirely as is, making only modest changes to the interior to accommodate the humanities students (naturally) who are set to inhabit it. Until it does something about the mistake of 1964, Columbia may yet have to worry about another 1968.

Ian Volner has contributed articles on architecture and urbanism to *Harper's*, *The New Yorker*, *The Wall Street Journal*, and *New York Magazine*, among other publications. He is the author or coauthor of numerous books and monographs, most recently contributing to *Jorge Pardo: Public Projects and Commissions, 1996–2018* (Petzel, 2021).

Left: Columbia's Manhattanville campus

Middle column: Kravis Hall (top); Geffen Hall (bottom)

Right column: A study lounge in Geffen Hall (top); the building's ground-floor commons (bottom)

Something for Everyone

Adjaye Associates' Winter Park Library offers many paths of discovery within monumental yet well-scaled enclosures.



Winter Park Library and Events Center

Design architect: Adjaye Associates
Architect of record: HuntonBrady Architects
Landscape architect: Land Design
Location: Winter Park, Florida

General contractor: Brasfield & Gorrie
Facade consultant: TLC Engineering General
Envelope consultant: Thornton Tomasetti

Seven years in the making and the subject of heated debate about its size and cost, the Winter Park Library and Events Center finally opened its doors this past December. At 50,000 square feet, the \$41.7 million complex contains spaces for public programs and lectures, classrooms, a maker lab, and even recording studios. The varied program follows through on architect David Adjaye's notion of the "library as a campus of knowledge."

Winter Park is in the heart of Central Florida, just five miles from downtown Orlando, and may seem an inauspicious place for such a daring work of public architecture. But the small city, which originated as a 19th-century resort community set among small, picturesque lakes and lushly planted landscapes, is an alluring place for artists, amusement park visitors, and locals alike. The previous library building, which dated to the 1970s, was in a walkable and well-trafficked area on the community's east side; flush with local restaurants and retail stores, it would seem a prime location for the library's replacement. Instead, city officials opted for a site on the west side of town, in the Hannibal Square area, near Martin Luther King, Jr. Park. Hannibal Square has historically been home to African American families; the area was bisected by an 1880s railroad line that brought much travel and development to Central Florida while creating a racial boundary still visible today. Gentrification is bringing marked changes to the area, but Winter Park Library, the nonprofit in charge of the new facility, aims to provide greater accessibility for all residents.

Drawing inspiration from Winter Park's extensive tree canopy, Adjaye Associates crafted

a trio of canted, shade-giving volumes—two containing programs, one an entry canopy—that form the complex. Associate principal Russell Crader and his team carefully modeled the faces of the volumes to protect visitors from the high-volume rainstorms that are common in the summer months. I can attest to the success of the architects' methods: On a recent visit, a late-afternoon rain shower clearly delineated the protected band of space surrounding the buildings. The rosy precast concrete panel facades, inscribed with a simple decorative pattern and developed with Gate Precast, are free of appendages like horizontal canopies and so retain their pure geometries. This gives the building elements a visual solidity and gentle monumentality.

A sculptural concrete edge wraps the open plaza and western side of the library, functioning as guardrail and bench. A well-placed amphitheater, paired with this concrete edge, offers the best options for extended, unshaded seating throughout the day.

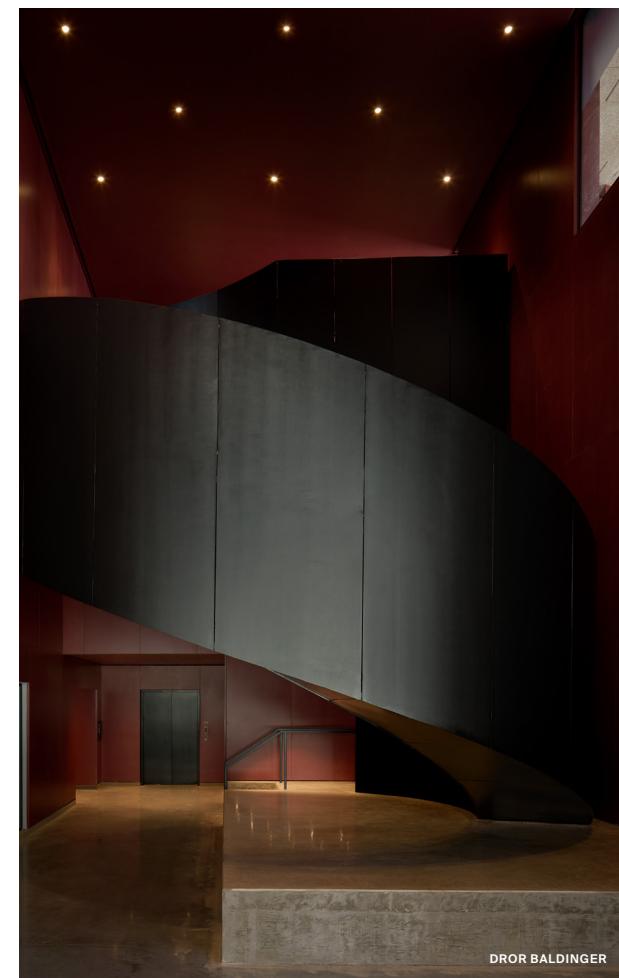
Inside the two conditioned structures, Adjaye Associates employed a clear spatial strategy consisting of a dense core surrounded by a relatively thin periphery. Large sculptural stairs occupy the center (or, in the case of the event block, the near center) of the floor plates. Expansive windows on all sides of the library allow for daylight and unobstructed views that improve the browsing experience. In an especially nice touch, the architects mirrored the concrete edge to create continuous seating along the curtain wall; movable cushions offer comfort. Furnishings in the lobby and at the building corners give patrons ample opportunity to lounge.

Visitors to the events center on the north side of the site arrive in a vaulted reception hall well suited for mingling. A textural, acoustically designed wall surface wraps the first floor and provides a photo-ready backdrop. Guests move around the core and into the open ballroom, which can accommodate a 240-person sit-down dinner for weddings, bar and bat mitzvahs, and family reunions. Large spans of

Above: The porte cochere at center, with the event center at left and library at right

Top, right: The vaulted entrance hall inside the events center

Right: One of two sculptural staircases that appear inside the complex



windows offer views of the park beyond, while making indoor-outdoor events appealing. A catering kitchen, bride and groom suites, and administrative offices occupy the core, punctuated by a circular staircase that leads to second-level meeting rooms and a spacious rooftop terrace. Owned and operated by the city, the center offers interior and exterior spaces that are available for reservation by the public.

The library, events center, and porte cochere are clustered at odd angles and at points come very close to touching. The arrangement creates in-between spaces that are dynamic, well scaled, and perhaps most importantly, shaded. You might think of them as outdoor rooms. I (so badly) wanted to linger and enjoy them, but there was no place to sit. Here, the benefits of flexibility for transient programs and guests seem to come at the expense of daily users. Crader told me that furniture has been discussed, with the operational budgetary facets still to be worked out.

But I wish the same attention to detail that was paid to the interiors had been given here, especially considering the center's stated aims of expanding access for residents.

The clustered campus is greater than the sum of its (also quite good) parts. The designers' focus on natural light and the needs of the local community, paired with an investment in technology and innovation, pushes the library forward while celebrating the knowledge and information contained within. As Crader explained: "It's this idea of discovery that we pursue in all of our libraries. You stumble upon something, rather than being directed through clickbait." At Winter Park, everything is right there for all to enjoy.

Sarah Gamble is an assistant professor at the University of Florida School of Architecture.



Potemkin Village

The curious case of a Wisconsin canton and its legally sanctioned “Swiss” architecture raises questions about identity construction.



BRIAN GRIFFIN

Facing page: Swissness Applied began as an exhibition at the University of Wisconsin–Milwaukee. **Above:** A sampling of the “Swiss” architecture of New Glarus, Wisconsin

My first project in architecture school was an exploration of the cube. The semester comprised a series of exercises meant to introduce us to architecture slowly and methodically. We graduated from lines to planes, and then to volumes, a progression that culminated in the cube (foremost among the Platonic solids as far as our modernist teachers were concerned). We drafted our cubes in graphite, guided by Mayline and triangle—all right angles, after all—drawing on precious Strathmore paper. (Cost: five dollars per sheet.) The paper’s surface was blinding white and pillow soft; we soon found it was apparently engineered to record every smudge and capture every errant fingerprint like incriminating clues left at a crime scene. And no use trying to cover our tracks—even my eraser left slick marks on the page. We learned to avoid any contact with the paper at all, a difficult task, especially so once we began to build models from the very same sheets. I presented one such cube during a pin-up toward the end of the semester. My critic—diligent, straitlaced, Yale-trained, he was a star pupil of both Zaha Hadid and Robert A. M. Stern—picked up my maquette, 6 inches on each side, or at quarter-inch scale, 24 feet per edge. He peered through its tiny

apertures, noting the subtle correspondences among facades that I had worked so hard to inscribe. He looked closely for some time, grinned, then offered his thoughts: “It’s hard to criticize—it’s so good, but so elegant as to be almost boring,” he said. “It’s so... Swiss.”

“Fine by me,” I thought at the time. Thinking back on it, I still wonder what qualifies something as being Swiss. Is it synonymous with precision and craftsmanship? A byword for wealth and exclusivity? Is it an affect? The impenetrability, neutrality, even aloofness that is evoked by the work of Swiss superstars like Peter Zumthor and Valerio Olgiati?

Nicole McIntosh and Jonathan Louie of Architecture Office have other ideas. The duo, who recently relocated to Zurich (McIntosh’s birthplace), published *Swissness Applied: Learning from New Glarus* (Park Books) late last year. The book grew out of their traveling exhibition of the same name. Exhibited to critical acclaim in New Haven, Boulder, Milwaukee, and Güterschuppen, Switzerland, from 2019 to 2021, the project ambitiously explored “how cultural imaginaries are appropriated and reconstructed” by and through architecture. Though centered on the town of New Glarus in

Wisconsin, founded by Swiss migrants in the middle of the 19th century, their research considers our field’s broader imbrication with histories of migration, identity, economy, and construction in other places as well. (In addition to New Glarus, the book includes documentation of transplant architectures in migrant-founded communities, including Frankenmuth, known as Michigan’s “Little Bavaria,” and Solvang, California’s “Little Denmark.”)

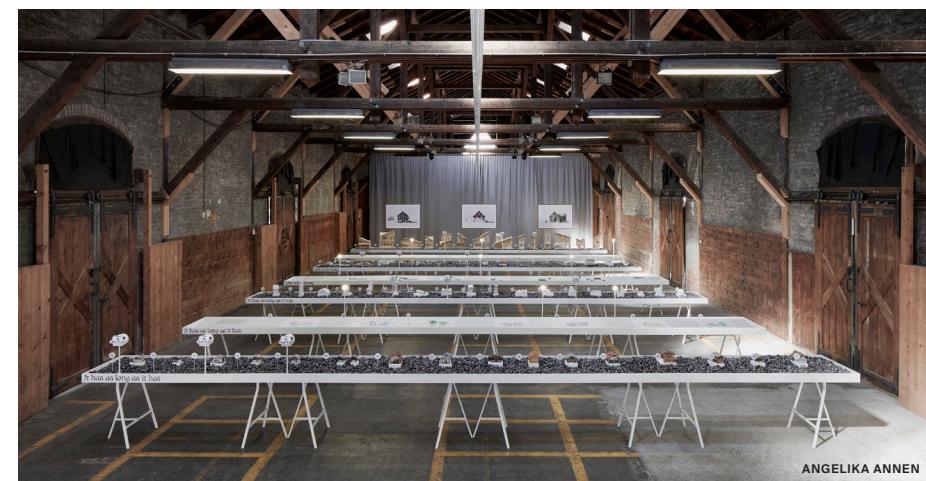
The project is animated by the unresolved tensions between a supposedly authentic but elusive idea of Swissness (“real” Switzerland) on the one hand and allegedly inauthentic but ubiquitous clichés of Swissness on the other (cheese, chocolate, chalets, and so on). But as McIntosh and Louie demonstrate, the concept becomes most fascinating in practice—that is to say, when Swissness is, per their title, applied.

Notions of Swissness serve different purposes and take on different meanings at different times. New Glarus, for instance, was settled by impoverished farmers whose colonial expedition to the New World was funded by their canton (old Glarus). But Swiss-style design played no major role in the new town’s architectural identity until

after World War II. Facing deindustrialization at mid-century—a “Helvetia”-brand condensed milk plant, the town’s largest single employer since 1910, closed in 1962—New Glarus pivoted to the tourist economy soon thereafter. In short, it was economic blight that drove New Glarus’s settlers out of Switzerland in the first place, and it wasn’t until economic circumstances changed again that the town began to self-consciously cultivate its Swissness.

Identity is constructed, always built with materials from many sources, some inherited, some acquired, and others repressed. In this case, “Swissifying” New Glarus meant cultivating and memorializing the town’s roots. Already more than 100 years old by the time the plant closed, the town made itself over as Swiss for the sake of heritage tourism while disregarding the more unsavory moments in the history of the place. As is briefly noted in the book, the town was settled on land stolen from Native tribes of the Ho-Chunk Nation, displaced in 1829. Swissness—like any heritage and any telling of a history—can obfuscate. Understanding a place requires first learning to look at it carefully.

Denise Scott Brown, Robert Venturi, and Steven Izenour’s *Learning from Las Vegas* (1972) looms large over McIntosh



COURTESY ARCHITECTURE OFFICE

and Louie's project, a fact they wear proudly on their sleeves. (Their subtitle is a loving homage.) There are many references to ducks and decorated sheds. (New Glarus buildings tend to be examples of the latter.) There are careful orthographic drawings of nonpedigreed architecture and deadpan photographs of storefronts taken from the roadside. (Brian Griffin's engrossing portraits of New Glarus's downtown are sublime.) There are scale models that faithfully reproduce charming architectural idiosyncrasies. (Several buildings sport ornate Swiss fronts that jarringly adjoin blank side elevations.) These documents are, without fail, fascinating. *Swissness Applied* is a master class in architectural fieldwork and close reading. It shows that there is still gas left in the tank, so to speak, of an approach that is now more than five decades old.

McIntosh and Louie are incisive researchers. They ask probing questions of their subject. Some of their inquiries are historical in nature. They explore "how the heritage of a place manifests elsewhere" and they ask how traditions of architectural ornament, among other aspects, evolve and mutate when transposed. Other lines of research are more prosaic. For instance, how do you build

a timber chalet out of dimensioned lumber and modern building products? Just as there is no essential, ideal Swissness, there is no single formula that captures this émigré architecture in all its depth. The answers, if there are any, coalesce in the rich complexity of buildings—the book documents a tavern, a hotel, and a convenience store, among several other Swiss-style structures—that are called upon to be not only bearers of cultural history but also vital equipment sustaining the local economy. In a perverse, kitschy way, New Glarus might be one of the few towns in the United States that understand the full value—both social and economic—of their architecture.

Here, Swissness is enforced with the authority of government by the town's Design Review Committee, the book's most-often-invoked protagonist. Any new construction, significant alteration, or renovation must adhere to the town's "architectural theme," an ordinance inscribed in the local code in 1999. On paper it is a formal set of straightforward architectural controls—e.g., that roof pitch must fall somewhere between 3½ and 5½—and is in any event subject to the final discretion of the committee. The other, somewhat more mysterious element of the legislation is

a set of reference photographs of Swiss buildings held in the municipal offices but apparently rarely consulted. As McIntosh and Louie divulge, it is not clear who selected the official photographs, nor even where the buildings they depict are located. It is a loose archive of decorated facades, window boxes and wood-shuttered windows, picturesque roofs, and half-timber framing. It is a collection of details that add up to a bureaucratized, phantom ideal of Swiss architecture, or to put it another way, a set of Swiss organs in search of a Swiss body.

In practice, the requirements of the Swiss architectural theme have sometimes led to truly bizarre architectural misadventures. A case in point: a concrete gas station turned into a retail outlet. Formerly known as the Swiss Shoppe, and before that the Schoco-Laden (a droll pun on the German words for "chocolate" and "shop," respectively), it is now the Maple Leaf Cheese and Chocolate Haus. It has the local distinction of being, as McIntosh and Louie note, "the only building transformation to prop up an entire roof—and an unoccupiable floor—atop the original structure." As the authors show in drawings of forensic detail, the faux second floor includes a balcony and

windows, but neither stair access nor insulation is provided. This curious building illustrates the misfit that emerges as legible emblems of Swissness lose the conventions of materiality and construction that were traditionally attached to them. When the two become delaminated and reassembled by other means, as they do throughout New Glarus, what emerges is a charming Potemkin Swissness that cannot be mistaken for the real thing, but satisfies the requirements of code to a T and is, in its own way, delightful, "almost all right," even.

The gas station underwent Swissification in 1981 at the hands of Stuart Gallaher, a local architect who has made something of a cottage industry (or a chalet industry, as the case may be) of designing Swiss-style architecture in New Glarus. If I have one complaint about McIntosh and Louie's project, it is that we never learn much about the local personalities who contributed to this place. Gallaher, we're briefly told, made several study trips to Switzerland so that his buildings could be "as authentically Swiss as possible in every detail," but the rest of his biography is left unexplored. About the oft-cited Design Review Committee, we have little sense of its composition.



COURTESY PARK BOOKS



Top row: Spreads from *Swissness Applied: Learning from New Glarus*, edited by Nicole McIntosh and Jonathan Louie of Architecture Office.

Facing page, middle row: In addition to the Milwaukee exhibition (left), McIntosh and Louie have staged shows at the Kunsthaus Glarus in Switzerland (right), as well as the Yale School of Architecture and the University of Colorado.

Facing page, bottom row: An elevation study depicting New Glarus before (top) and after (bottom) the municipal design ordinance went into effect.

Left: An installation at the Kunsthaus Glarus

Right: Models of McIntosh and Louie's designs from the "It Has as Long as It Has" chapter

As anyone who has spent time in a small town knows, drama and gossip are inevitable facets of everyday life. It's unlikely that Swissness was ever applied in New Glarus without some friction. Curiously, human figures appear in only a handful of the publication's 280 remarkable illustrations. Despite the curious absence of the human element—or perhaps because of it—the book remains laser-focused on the architecture. And why should any architect complain about that?

The final section, "It Has as Long as It Has," presents a series of speculative proposals designed by the authors. The title is a literal English translation of the Swiss German idiom *Es hät solangs hät*; of this choice McIntosh and Louie write, rather brilliantly, "like the buildings of New Glarus, the title's literal translation from Swiss German to English does not align." These projects recombine ready-made elements of Swiss-themed model-building kits (manufactured by Gebr. FÄLLER Modellbau) to unsettle our expectations of what Swissness looks like in actuality. Familiar ingredients—shingle roofs, shuttered windows, timber walls—are combined to odd and surprising effect. They delineate skinny chalet-towers, top-heavy cabins, slice-and-dice villas.

The architects insist these projects are bona fide Swiss too. They even submitted one scheme to the Design Review Committee in New Glarus. (It was not warmly received.) The designs collected here are all imaginative explorations. But for all their virtues they are ultimately somewhat less interesting than the manifestly bizarre ways that actual buildings in New Glarus have adapted to, among other things, the Swiss architectural theme and prefabricated building systems. Truth, of a sort, is ever stranger than fiction. But the ambition of McIntosh and Louie's sophisticated project is clearest in this last chapter. It is an attempt by two architects to find ways of engaging the real conditions of the constructed world. It is a method for meeting codes, conventions, and contingencies with creativity and ingenuity. We can expect that it is a thread they will continue to unravel in their practice for years to come.

This book is an embarrassment of riches for all the reasons already mentioned. But to note just one more: *Swissness Applied* contains a great deal of fine writing. The essays multiply the project's manifold intersections with histories of immigration and many domains of cultural history and are a perfect



MICHAEL VAHRENWALD

complement to McIntosh and Louie's focused research. Marc Angelil and Cary Siress set the tone with an introduction that reframes authenticity as an open category ripe for architectural experimentation. Philip Ursprung reflects on his journey from Switzerland to the United States. Kurt W. Forster dissects how a generic Swiss-style architecture has been cobbled together from distinct regional traditions that would never otherwise share space. Whitney Moon weaves a modern, multi-media history of the Matterhorn. Jesús Vassallo reflects on the logic of the photographic archive and modern architecture's

preoccupations with hybridity and combination. Courtney Coffman writes precisely on the exhibition designs. Patrick Lambertz discusses his photographic series "Châlets of Switzerland." The book has no weak notes. It's so elegant. It's so well done. It's so... Swiss.

Phillip R. Denny is an architectural historian. He is a PhD candidate at Harvard University.

Health Prescription

On paper, the Focal Point Community Campus project in Chicago's Little Village neighborhood seems like a boon for the predominantly poor and multigenerational Latinx residents who live there. Spearheaded by Guy Medaglia, the project would build a new facility for Saint Anthony Hospital, which Medaglia heads as president and CEO. It would create acres of green space in a place where parks are scarce and build affordable housing where many now live on the margins. It would prioritize issues of public health in a neighborhood with tragically high rates of respiratory disease, resulting from proximity to an industrial and logistics corridor. Finally, it would put Saint Anthony, a safety-net hospital that has been a community fixture since 1898, on more sustainable financial footing.

But not everyone sees the development's value as clearly as Medaglia does. Within Little Village, a painful eviction struggle and generalized fears of gentrification and displacement have made some wary of the project. Focal Point hasn't fared much better at the municipal level. Although it was recently approved by the city council (groundbreaking is set for next year), it has attracted little meaningful support among local Chicago leaders.

Medaglia said that a better-equipped Saint Anthony and a larger campus through the Focal Point project can be a vital first step in carving out spaces for people's mental and physical health. "Where there are residents, it doesn't make sense for [the area] to be all an industrial corridor," he said. "One hospital alone is not going to make the impact—neither is one campus. Focal Point is just the beginning of an overall plan."

In 2012, Medaglia set up the Southwest Development Corporation (CSDC) nonprofit. He needed to replace Saint Anthony's aging facilities but knew that financing a new safety-net hospital would be hard going. "We needed to get a little bit creative and come up with a different concept," he told *AN*.

He tapped HDR to prepare a scheme for 32 acres of public land at West 31st and South Kedzie Avenue. The resultant plan divided the area into four quadrants. The northeast quadrant is given over to a new facility that would replace the existing Saint Anthony Hospital, set amid abundant park space and gardens. The northwest quadrant contains child-care facilities and 150 housing units, 30 percent of which, Medaglia said, will be tax credit-financed affordable units. To the southwest, the architects have imagined multipurpose sports fields atop a parking structure, while the southeast has been designated for mixed use (retail, offices, education).

Because job training is a key element of the Focal Point initiative, there will be an on-site trade school focused on the healthcare industry. Tom Trenolone, a design director at HDR, wryly summed up the programming as "half healthcare campus, half university campus, half city park."

The stacked rectilinear buildings that

he and his team designed attempt to blend in with the existing building stock. This would be achieved primarily through materials that change as the towers make their way skyward. Brick and Corten steel, which reference the neighborhood's industrial heritage, appear closer to the ground, while glass takes over on the upper floors. A skywalk connecting the hospital's acute-care and outpatient wings doubles as community meeting and event space. Its brawny truss supports nod to nearby canal bridges.

For Trenolone, the way Focal Point mixes programs within a consistent health and wellness rubric is unprecedented. "I don't think there's much out there," he said. That is exactly what Medaglia was going for, but he admitted that the development's experimental and nonprofit nature has put it at a disadvantage with investors. "I would have been better off as a for-profit corporation worth billions saying, 'I want to put up a manufacturing facility.' That would have been a lot easier. It's so much easier to [get others to] believe in a for-profit organization." (He is collecting corporate donations and borrowing money to finance the project.)

For a decade, Focal Point has lurched through site acquisition hurdles and municipal approvals. Despite its siting on the Southwest Side, it isn't listed on the high-profile, \$750 million INVEST South/West docket of projects looking to develop housing, transit, commercial corridors, and public services in some of the city's most disinvested neighborhoods. The public funding that has been afforded to Focal Point—around \$900,000 from the federal government—does little to chip away at its \$700 million price tag. Other large-scale real estate developments with much more affluent people as their intended user groups have cruised through approvals and fundraising stages. For example, Sterling Bay's luxury Lincoln Yards project on the wealthy North Side was handed \$900 million of public funding. By comparison, Focal Point looks like an underdog, grassroots effort.

It isn't, said Howard Ehrman, founder of Mi Villita Neighbors, a grassroots organization that focuses on community, political, and economic development as well as environmental quality. His family has lived in Little Village for more than 100 years. Ehrman believes Focal Point will usher in the type of gentrification and displacement experienced by the Pilsen neighborhood immediately to the east. He's also leery of how much market-rate housing the project will deliver. "It's a huge part of the project," he said, adding that he'd like to know more details on how the housing subsidies will be tied to the area median income.

Ehrman called the potential redevelopment of a nearby discount mall and the El Paseo Trail (a rails-to-trails greenway project that's planned to run by Focal Point) a coordinated effort to push out his neighbors. "That's really the whole plan, to gentrify not just that part of the neighborhood but the whole neighborhood,"

The Focal Point Community Campus promises to expand healthcare services in a Chicago neighborhood where they're sorely needed. Why isn't everyone on board?



COURTESY HDR

he said. "You're not just only going to have the El Paseo Trail; you're going to have this huge new project from Saint Anthony's. People are going to move out in droves."

Medaglia doesn't think a development centered on a safety-net hospital will ever be a driver of gentrification, and he told *AN* he'd support a property tax freeze to mitigate risk to homeowners. "Saint Anthony's will always take in the poor," he said. "That's the anchor."

To that end, Medaglia devised a unique funding structure designed to reinvest in the neighborhood. Individual entities on site—including Saint Anthony—will pay rent to CSDC, through which a community board will disburse a certain amount of these funds (Medaglia estimates \$7 million annually) to local nonprofits and institutions. It's a better deal than most developers offer, he said: "Developers don't do that. They don't give away their money."

Democratic alderman Mike Rodriguez is a supporter of the Focal Point plan and has endorsed a community benefits agreement for it. "Saint Anthony's Hospital has been around longer than Little Village has been Little Village," he said. "The Saint Anthony's development project will help stabilize the community in many ways. It is very complimentary of our vision of preserving the Little Village community as the Mexican capital of the Midwest."

When asked how Focal Point reflects the community's needs and desires, Medaglia discussed a robust public engagement initiative going back years. CSDC set up meetings in high schools, churches, and supermarkets to solicit feedback. He said he relied on public health research from partners at the University of Nebraska Medical Center's College of Public Health, which assisted with the public engagement process.

But Ehrman said he's seen people from outside Little Village bused in to community meetings by CSDC to forward its agenda. Medaglia clarified that Focal Point will serve people beyond Little Village and that he brought in people from adjacent neighborhoods who supported the project but did not have their own means of transport.

Carefully managing a public engagement process on controversial projects is familiar turf for HDR. An August 2021 *Vice* report revealed that the firm had taken on several jail and prison commissions and used surveillance techniques to keep an eye on its critics. The article details how HDR monitored public and private Facebook groups, analyzed public sentiment on social media platforms, used geospatial analysis,

and created its own social media accounts at the behest of its clients. HDR later told *AN*, "Awareness of public sentiment helps us amplify all voices that need better access to public processes."

The Focal Point site was the stage of a heated eviction struggle that ended last fall when a small group of Mexican American artists and musicians were removed on court order from one of the buildings in the area. CSDC filed eviction notices in February 2021 against Juan Herrera and Marcos Hernandez, and the artists vacated the premises in September. The HDR website touts a "center for creativity," but Medaglia said they couldn't find a way to fit these resident artists into future plans for Focal Point. "We tried every way to work with them in terms of moving forward with the project and helping them continue their artistry," he said. (Multiple requests for comment from legal representatives of the evicted artists were not returned.)

Ehrman questioned CSDC's and HDR's commitment to local culture. He sent *AN* a slide deck presentation assembled by HDR and Saint Anthony Hospital for a medical industry event. One slide labeled "The Culture" depicted tattooed Black and Brown men throwing up gang signs overlaid on a photo of an abandoned building. "That's what they think of the culture," he said.

Trenolone, who says he didn't assemble the presentation or take part in it, said that the purpose of the slide was to illustrate negative perceptions of Little Village's culture outside the neighborhood, not to authentically characterize it. He called it a "lead-in slide for shock value" that segues into positive elements of the neighborhood. (The next slide is labeled "Success and Independence" and features a picture of Saint Anthony Hospital.) Trenolone also said that presenting these negative perceptions "might have been treated a different way if [the presentation] were given today."

CSDC recently acquired an adjacent 11-acre plot that was once the site of the Washburne Trade School. Operated by the Chicago Public Schools from 1958 till the mid-'90s, the facility was demolished a decade ago. What Ehrman wants to see is a continuation of this legacy of public ownership—for the site at 31st and Kedzie to be controlled by a public entity with some level of democratic accountability, whether that's a public trade school like Washburne, a library, or public housing. What's important, he said, is that "every public space stays public."

Zach Mortice is a design journalist and critic based in Chicago.

INVEST South/West, an equitable development initiative of the City of Chicago, yields early initial projects, but not without communication breakdowns along the way.

Trust the Process?

It's generally understood among Chicago residents that the city looks the way it does because of institutionalized racism, which built, and unbuilt, much of the southern and western areas of the city. Less clear to most is how one might go about repairing the results of that catastrophe, as singular new developments won't heal and transform neighborhoods traumatized by decades of disinvestment and demolition. When Mayor Lori Lightfoot, who ran on an equity platform, and her commissioner of the Department of Planning and Development (DPD) Maurice Cox announced their INVEST South/West (ISW) initiative back in 2019, it was largely regarded as one step toward the type of repair required to bring businesses back into these neighborhoods and stimulate new growth in areas that need it the most.

The City of Chicago calls ISW a "global model for urban revitalization." According to a press release from November 2021, there has been approximately \$1.4 billion in investments so far, including \$750 million in city funds, \$575 million in corporate and philanthropic commitments, and \$300 million in planned mixed-use projects. Accounting for the last figure is a series of RFPs issued by the city over the past two years to developers and architects for the redevelopment of sites along commercial corridors across ten areas on the city's South and West Sides. These corridors once functioned as small downtowns for Black and Brown neighborhoods; as populations waned and subsequent "blight" removal programs demolished businesses and homes, these areas were left in economic and physical ruin.

ISW seeks to repair these corridors and court new private development, but it has not yet proved to be a panacea. Instead, it has underscored the complexity that long-running disinvestment has lodged in decision-making processes. It's clear that these processes ought to build trust and transparency, not just measurable outcomes.

RFPs for ISW sites are issued in phases. In 2020, the first three sites for consideration were located in the neighborhoods of Austin, Auburn Gresham, and Englewood. In 2021, the city announced that it had awarded seven projects through similar RFPs, and a project in North Lawndale was awarded in January 2022. The process is relatively consistent for each location: It begins with a kickoff celebration in each neighborhood; architects and developers have three months to prepare a proposal; all proposals are presented at community

meetings, where residents have an opportunity to speak and ask questions; feedback and "scoring" are provided through electronic surveys and collected from residents; and, finally, the city evaluates each proposal, taking into account survey feedback, and selects a winning proposal.

Proposals for Austin and Auburn Gresham were due by November 24, 2020, followed by community presentations in January 2021 and winner announcements that March. In Austin, architecture firms Latent Design and Valerio Dewalt Train Associates with Oak Park Regional Housing Center and Heartland Alliance won the bid with a proposal called Austin United Alliance, which will rehabilitate the historic Laramie State Bank building into a blues museum, business incubator, cafe, and housing. It will serve as a gateway development for the Chicago Avenue commercial corridor. In Auburn Gresham, a proposal called Evergreen Imagine from Nia Architects and Ross Barney Architects with Evergreen Real Estate Group and Imagine Group aims to bring dense, equitable transit-oriented development rental units to a vacant site along the 79th Street corridor.

After these winning proposals were announced, both were met with protests lodged by members of the respective communities. As reported previously by local outlet *Austin Weekly News*, some Austin residents were outraged that the winning proposal included Oak Park Regional Housing Center, a suburban nonprofit that will manage the housing units on the Laramie Bank site. The city's survey results were meager: DPD asked residents to evaluate all seven RFP proposals, but the department collected only 27 responses—27 out of 100 roundtable participants and 96,000 Austin residents.

In a February 2021 roundtable meeting prior to the award announcements, Darnell Shields, executive director of the prominent neighborhood nonprofit Austin Coming Together, said that "because it's an RFP process, there are certain constraints ... that create some barriers around the city's intentions on having an authentic requirement around community engagement. How much input can we actually have on a train moving at a pace that we didn't set? There weren't a whole lot of opportunities for these applicants to thoroughly engage the community." Shields went on to tell *Block Club Chicago* reporter Pascal Sabino that residents were "invited to the table to help make the decision, but not to develop the process."

Auburn Gresham, which is part of Chicago's Bungalow Belt, has prioritized homeownership as part of its own



COURTESY ROSS BARNEY ARCHITECTS

2016 quality-of-life plan, developed by the Greater Auburn Gresham Community Development Corporation. Many residents were vocal about their objections to the planned multifamily residential proposal discussed in the various roundtable meetings hosted on Zoom by DPD and shared via YouTube. Instead, residents expressed a desire for commercial development.

Carol Ross Barney, principal and founder of Ross Barney Architects, saw the protests in Auburn Gresham not as a subset of rabble-rousers, but as a product of the community engagement process: "When we won ISW, our proposal was based on the process that they had [previously] done. And the very first meeting, all we had was pushback; they didn't want housing, they didn't want *that* type of housing," she told *AN*. "Nobody would talk to anybody." At one meeting held on Zoom on June 24, 2021, Auburn Gresham residents and Cox had tense exchanges, wherein Cox implied that developer interest in the Auburn Gresham site was low and that the city "always has the option to do nothing."

Ross Barney's team put together a new engagement process that combined open houses for speaking with the design team with more structured activities and drawing sessions, both in-person and via Zoom. Eight extra meetings were held during the summer in 2021, resulting in a project that redistributes development between two adjacent sites, adds park space, and includes a commercial space. The process added both time and costs—particularly due to adding another property—to the final design. In a November 2021 Committee on Design presentation, David Block of Evergreen Real Estate Group said that his "gut says that it's still the right way to develop [neighborhoods like Auburn Gresham], but it's a hugely economically inefficient way to do it." Barney noted that by the end of her team's engagement process, the "vibe was different"; it had become more supportive of the project. This was due in part to the fact that residents were more willing to give her team a chance, simply put, because they weren't representing the city. "A program like this is really radical for our city, but these are really disinvested communities, Ross Barney said. "They don't trust the city."

What Ross Barney et al. did right was to take the time to build trust, making space for necessary discomfort that she said can yield compromise, not winners and losers. "What we're missing in Congress is what we're now trying to grow in these communities: the idea that

you can compromise, and you can talk about resources and the allocation of resources, and there doesn't have to be a lot of losers," she said. Separately, Ross said, "Chicago's vitality depends on the strength of all its neighborhoods," adding that she's "happy to be associated with this program and [looks] forward completing well-designed homes for the Auburn Gresham community."

This is the "speed of trust" that many designers ought to employ when working with long-neglected communities, a pace at which community members not only feel some degree of ownership over the outcomes, but over the process itself. After mayoral predecessors Richard M. Daley and Rahm Emanuel, whose downtown development blitzes largely ignored South and West Side communities, Lightfoot framed ISW's development opportunities through an equity lens. The Austin proposal, like all selected ISW proposals, will continue to undergo extensive review, including public meetings. But is this typical of how many design competitions establish community agency over their own neighborhood's future?

After decades of disinvestment instilled a sense of distrust, these neighborhoods don't just need new developments—they need the city to lead reparative processes. Following philosopher Olufemi Táíwo's work on spatial reparations, this means that agencies shouldn't only redress past harms and negligence with new buildings but should build justice into the built environment itself. This can be accomplished by providing communities with greater control over the development process for these sites and allowing communities to decide the extent of engagement required.

There is so much hope here. ISW stands to create useful, beneficial buildings in disinvested places; proposals such as Ross Barney's include thoughtful programs that will drive future private investment. The program's problems are not an indictment of the projects themselves, but of the ways in which city planners respond to the contexts in which they operate. Trust isn't built by outcomes alone, but through how we achieve those outcomes—through collaborative processes that make space for friction and, eventually, cohesion.

Anjulie Rao is a Chicago-based critic and journalist covering the built environment.



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Using the white colorway of the Riverside Drive Hex, Gregory's Coffee created a bold and dynamic floor design that enlivens the space.



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Poliform: Marisol Zero One



Since the 1970s, Italian cabinetry and interior design firm Poliform has been a leading player in the international furniture market, producing custom-made systems and furnishings for sophisticated clients seeking beauty, exclusivity, and refined, contemporary elegance. All these attributes come together in Malibu's Marisol Zero One.

Marisol Zero One is the first zero carbon-ready home in California, a title granted by the International Living Future Institute. Burdge & Associates selected materials with low embodied carbon to the greatest extent possible; in addition to the widespread use of sustainable timber, the architects specified recycled steel, cement, insulation, and aluminum. The modern, electric-powered ranch-style house features six bedrooms and seven baths, as well as kitchens and walk-in closets. The furniture, including the Bristol sofa system, Dune sofa, and Alea kitchens, was provided by Poliform.

poliform.com

Marisol Zero One draws much of its contemporary elegance from Poliform products, which include Flute dining and coffee tables, Mad armchairs, and a Senzafine walk-in closet, among others.

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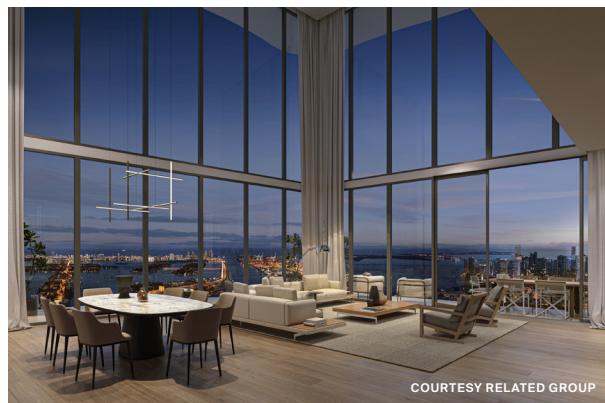
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Poggenpohl: Four Seasons Residences at 706 Mission

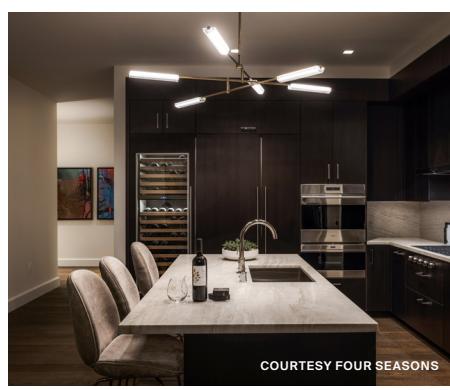


Poggenpohl is a pioneer in modern luxury kitchen design. With more than 130 years of experience, the company designs, builds, and supplies high-quality kitchens for multi-unit properties, from exclusive residential complexes to high-volume upscale residential projects, such as the Four Seasons Private Residences at 706 Mission.

The 501-foot-tall tower development offers panoramic views of San Francisco and an unrivaled luxury experience. Embedded in the Yerba Buena Museum District, these grand estate-style residences are true works of art. They draw inspiration from the adjacent Aronson Building, a 1903 local landmark sensitively adapted and restored by Handel Architects, as well as the meticulous attention to detail characteristic of San Francisco's best modern architecture. Many of the units (some of are located in the Aronson Building itself) feature custom-designed gourmet Poggenpohl kitchens that are perfect for entertainers or quiet dinners with space that surprises and delights.

poggenpohl.com

In the gracious residences, elegant Manhattan-style interiors combine with a historic art deco exterior to create a backdrop for living unlike any other private residence in San Francisco.



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Facades+ at Ten

Celebrating a decade of presenting the AEC industry's leading conference on building enclosure design and fabrication

In 2012, *AN* launched the first *Facades+* event based upon a simple but incontrovertible observation: Buildings account for 40 percent of global carbon emissions, and one of the best ways to mitigate that impact is through boosting the energy performance of facades. We surveyed the field only to find that there were no conferences focused on improving facade performance with the aid of emerging parametric software or computer-assisted fabrication techniques. And so we created *Facades+* (the plus signaling the tie to technological innovation), with the mission of bringing together leading architects, engineers, facade consultants, contractors, and manufacturers—the whole circle of the world of facades—to share information and forge connections leading to the next generation of high-performance building enclosures.

From our first event in New York City, *Facades+* has grown to host conferences in nearly 20 cities across the country. Architectural solutions, especially those related to energy performance, are regional by necessity. In extending *Facades+* to include more cities, we always partner with local practices to discuss significant local projects in ways that are meaningful for that location. Each event includes a symposium with keynote speakers and panels, in which projects are shared; an exposition, in which manufacturers exhibit their products and systems; and a series of workshops in which designers learn about the latest tools and strategies for improving performance and design quality. *Facades+* is also committed to providing continuing education to architects and offers AIA credits to attendees.

Of course, we haven't done it all on our own. In addition to our local partners, throughout the history of *Facades+* we've teamed up with industry stakeholders and innovators leading the development of ever-more-efficient facade design and fabrication processes. We'd like to take this opportunity to acknowledge them and express our deep gratitude: Mic Patterson of

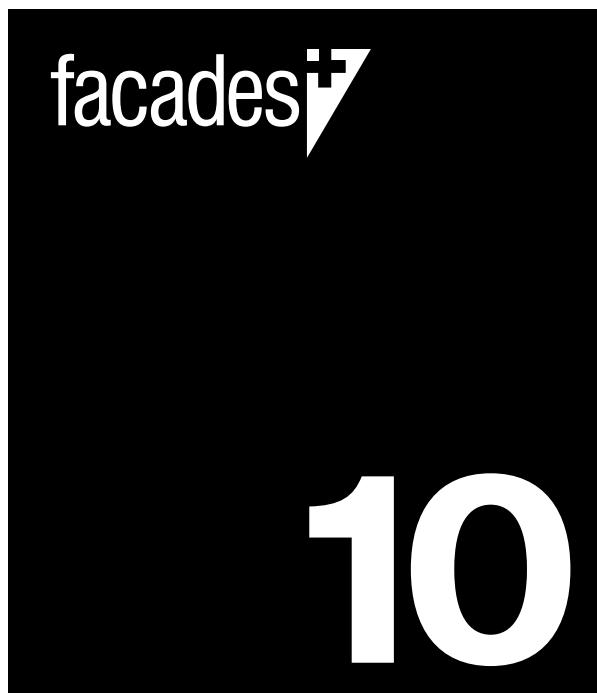
Facade Tectonics and facade contractor Enclos were an integral part in the early days of getting the conference up and running on the right track. Gary Higbee of the Steel Institute of New York was our first sponsor and really got the ball rolling. Edward Peck has been a supporter for the past ten years and hasn't missed an event. Heath May of HKS has offered consistent support. Jason Kelly Johnson helped us kick off our West Coast events. Our friends at TEX-FAB—Andrew Vrana, Kevin McClellan, Kory Bieg, and

Brad Bell—have kept us in the know about the latest in digital fabrication. Jeff Haber of W&W Glass has always lent us his ear and his advice. William Kreysler of Kreysler & Associates has taught us all about composites. Erik Verboon of Walter P Moore and Ronnie Parsons of Mode Lab have helped keep us on the cutting edge of developments in engineering and computational design and manufacturing (also, thanks, Erik, for all the great cocktail parties). And certainly we have to thank our premium sponsors, YKK AP and Vitro,

which have bestowed their support and contributed know-how to our learning environment.

There are many more! To all of the facades tribe—all the sponsors and attendees who have joined us throughout the years—thank you. We hope *Facades+* has elevated your knowledge as the industry continues to evolve.

As we celebrate this ten-year anniversary, it's clear that *Facades+* is as relevant as ever. Over the past decade, the reality and severity of climate change have only become more and more apparent and the need to leverage technology to safeguard against further destruction has become all the more urgent. For architects and other building designers wishing to move the needle of the built environment in the direction of ecological responsibility, there's no better way to be fueled with inspiration and armed with the latest advances in design and technology than by attending *Facades+*. Chances are, we'll be appearing in your city soon.





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Face Off

Since 2012, AN Media has hosted the Facades+ conference series, whose aim is to highlight the state of the art in building enclosure design and technology. Certain facade techniques and assemblies have predominated during this period. Many were necessitated by evolving climate standards and an awareness of the impact of buildings on carbon emissions. Others emerged from new economies of scale or more effective computational tools permeating the field. All display certain aesthetic affinities, pointing both to architecture's past (e.g., stone and terra-cotta) and its future (bird-safe glass). To celebrate Facades+'s anniversary, AN looks back at enclosure trends that defined the past decade.

By Drew Zeiba

Flintstone Modern page 38



COURTESY STUDIO ANNE HOLTROP

Tinkering with Clinkers page 40



VIVEK EADARA

Alt-Glass page 42



WAN BAAM

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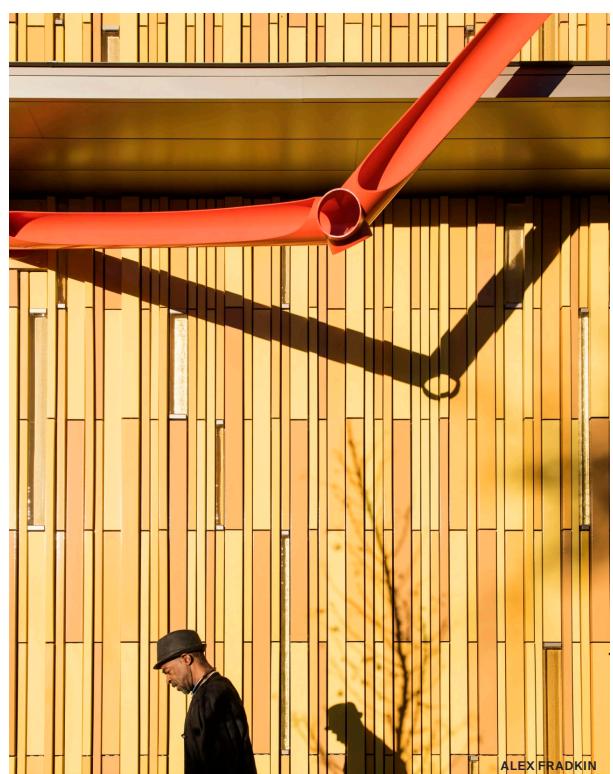
TIMOTHY SCHENCK

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BRAD FEINKOPF

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Building
Legacies

Face Off Flintstone Modern

Against a high-tech culture of the smooth and unspecific, some architects turned to more textured, archaic forms and materials.

Take Amin Taha's 15 Clerkenwell Close in central London, completed in 2018. The apartment building overlays its glass curtain wall with uneven limestone and load-bearing masonry. Taha left the edges of the stone rough and preserved the scoring that indexed quarry cuts and stoneworkers' treatments. Though offset from the building's envelope, the limestone lattice remains integral to its performance; Taha claimed that it led to a reduction in embodied carbon by as much as 90 percent, as compared with typical concrete

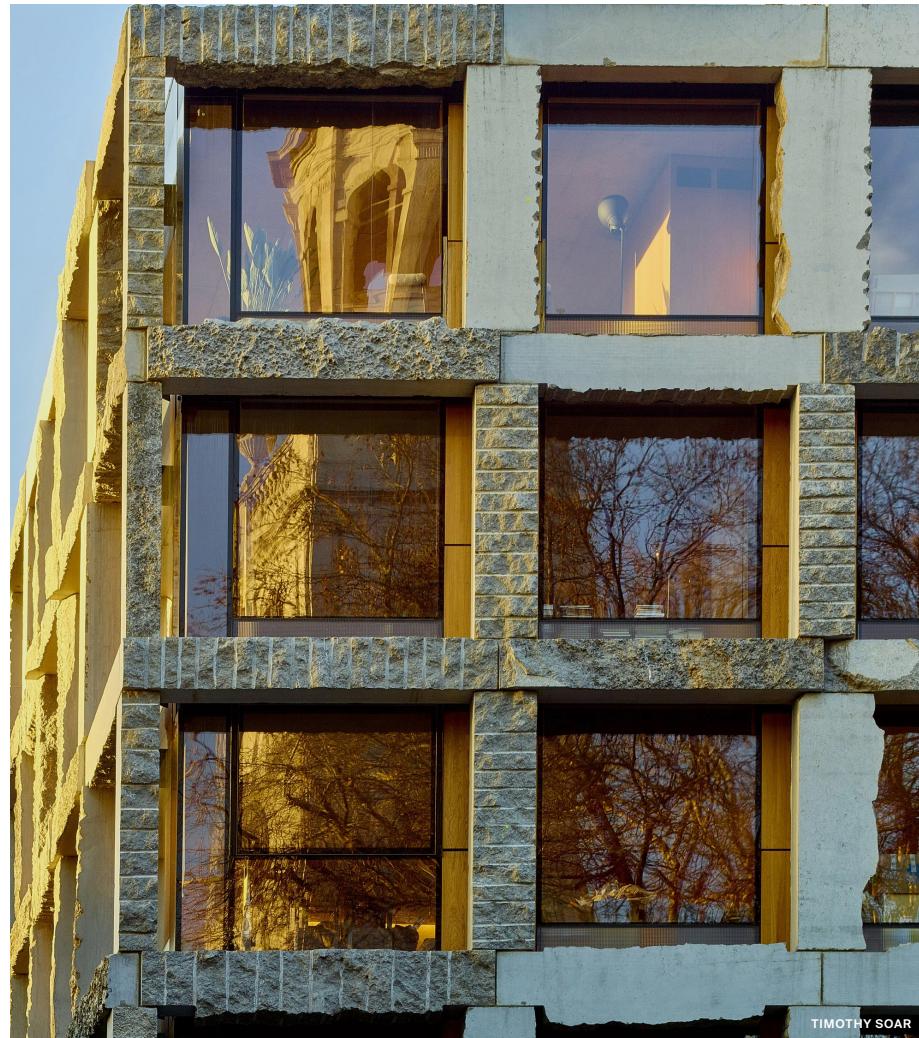
and steel frames. Critically hailed, the project was unpopular with neighbors, who unsuccessfully sued to have it dismantled.

Bahrain- and Amsterdam-based firm Studio Anne Holtrop has also exhibited a Neolithic bent, with buildings that are primitive and sleek at the same time. One of the office's most recent projects, 35 Green Corner in Muharraq (2020), uses on-site sand-cast concrete panels indented with impressions of the surrounding landscape; this textural relief continues inside the narrow art storage space. Holtrop has said that he has "a strong wish to work directly with material and the way I can form it," which can also be seen in the sand-

blasted forms of his *Cutting and Casting* (2018) exhibition and his runway and retail designs for Maison Martin Margiela.

Similar to 35 Green Corner, Foster + Partners' Narbo Via Archaeology Museum (2021) in Narbonne, France, balances earthy grit and glassy sophistication. The building features warm-colored concrete walls striated as if

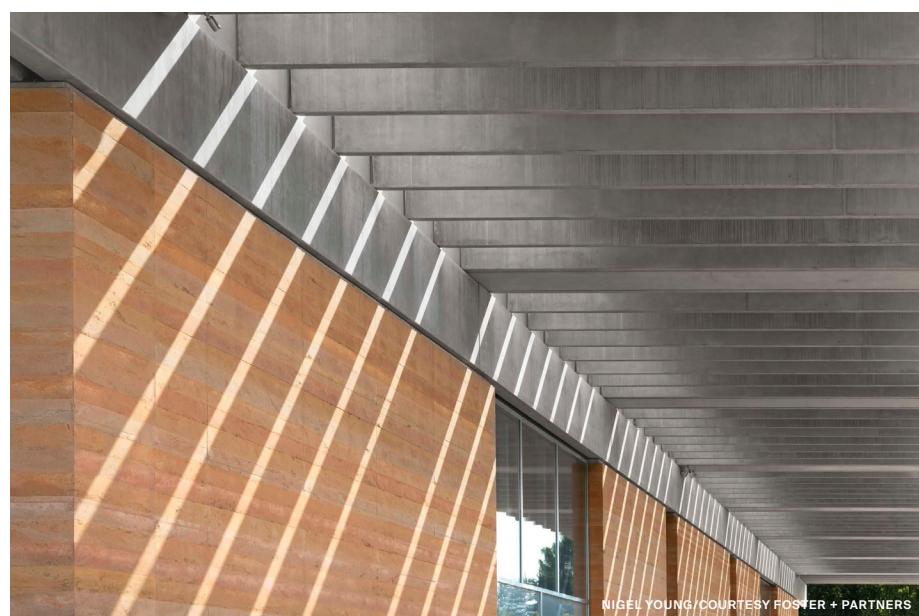
excavated from an ancient site. To achieve this dig-site look, Foster + Partners used local aggregates in different compositions, which resulted in a reddish clay hue. Insulating rammed-earth composites from Sirewall yielded a coarse texture while also upping the building's thermal performance.



TIMOTHY SOAR



COURTESY STUDIO ANNE HOLTROP



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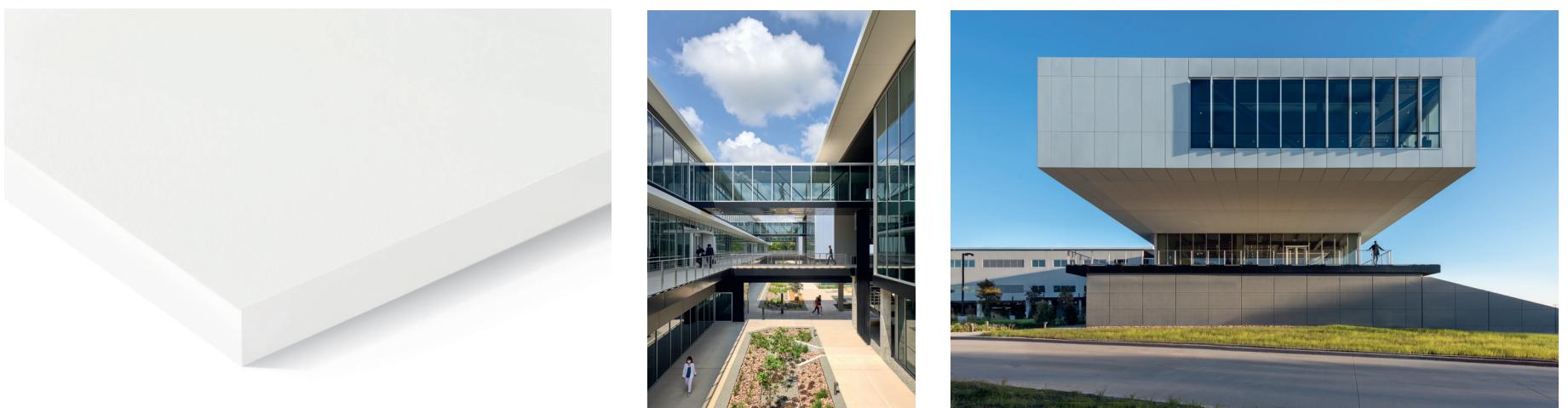
COURTESY STUDIO ANNE HOLTROP

Top left: Amin Taha's 15 Clerkenwell Close in London

Above: Cast-concrete panels at Studio Anne Holtrop's 35 Green Corner in Muharraq, Bahrain

Far left: The clay-hued walls of Foster + Partners' Narbo Via museum in Narbonne, France

Left: The exposed concrete panels inside 35 Green Corner



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Tinkering with Clinkers

Face Off

Brick is millennia old, but it achieved ubiquity only in the mid-19th century, when artisanal firing methods gave way to industrial manufacturing. The same standardization guided the material's use in building design, where it was laid out in prescribed bond patterns. But thanks to new construction and computational techniques, brick has taken on renewed life.

In London, Bureau de Change's five-story Interlock apartment building (2019) illustrates this evolution nicely. The outermost edge of the facade is set flush with that of its neighbor, whose sandy-colored bricks are arranged in a running bond. But then things start to happen: The Interlock's blue-clay bricks appear to ro-

tate like the teeth of a gear, as if the apartment face received an electric jolt. Using computational modeling, Bureau de Change generated 44 unique, interlocking brick types to achieve the rippling effect.

The windswept look has proved incredibly popular, with differences largely coming down to color and technique. In Sydney, the contorting facade of a 13,000-square-foot gallery (2019) by John Wardle Architects and Durbach Block Jaggers (literally) leaves an impression; the design team applied all sorts of tapers and cambers to get the gray, handmade bricks to cooperate. A project in Hyderabad, India, by Sameep Padura and Associates (also 2019)

riffed on a similar motif, only here the corbeled redbrick bulges around windows for added protection from the hot sun. Stateside, for a northern Illinois residence (2018) Brooks + Scarpa and Studio Dwell created a 28-foot-tall twisting screen wall using a relatively simple method: They threaded reclaimed Chicago bricks onto steel rods following a computer-generated pattern.

New York is replete with revisionist takes on classic masonry. Apart from its height, a 50-story residential tower on the Upper East Side (2021) stands out thanks to an almost fetishistic flourish. Design architect DDG and architect of record HTO Architect worked with

bespoke Danish brickmaker Petersen Tegl to arrange the 600,000 hand-fired and -laid clinkers that make up the facade; extruded modules at the corners add a spiny texture. Downtown in the West Village, David Chipperfield Architects' Jane Street apartment building (2021) toys with neighbors, placing thin artisanal redbrick atop chunky, custom-red concrete lintels. Across the East River, at SO-IL's recently opened Amant Art Campus in Brooklyn, white cement bricks are wielded in uncanny ways.



JAMES EWING



RAFAEL GAMO



WILL FEMIA



Left: Brick corbeling at the Sienna apartment complex in Hyderabad, India

Top left: David Chipperfield Architects' 11-19 Jane Street Apartments in New York

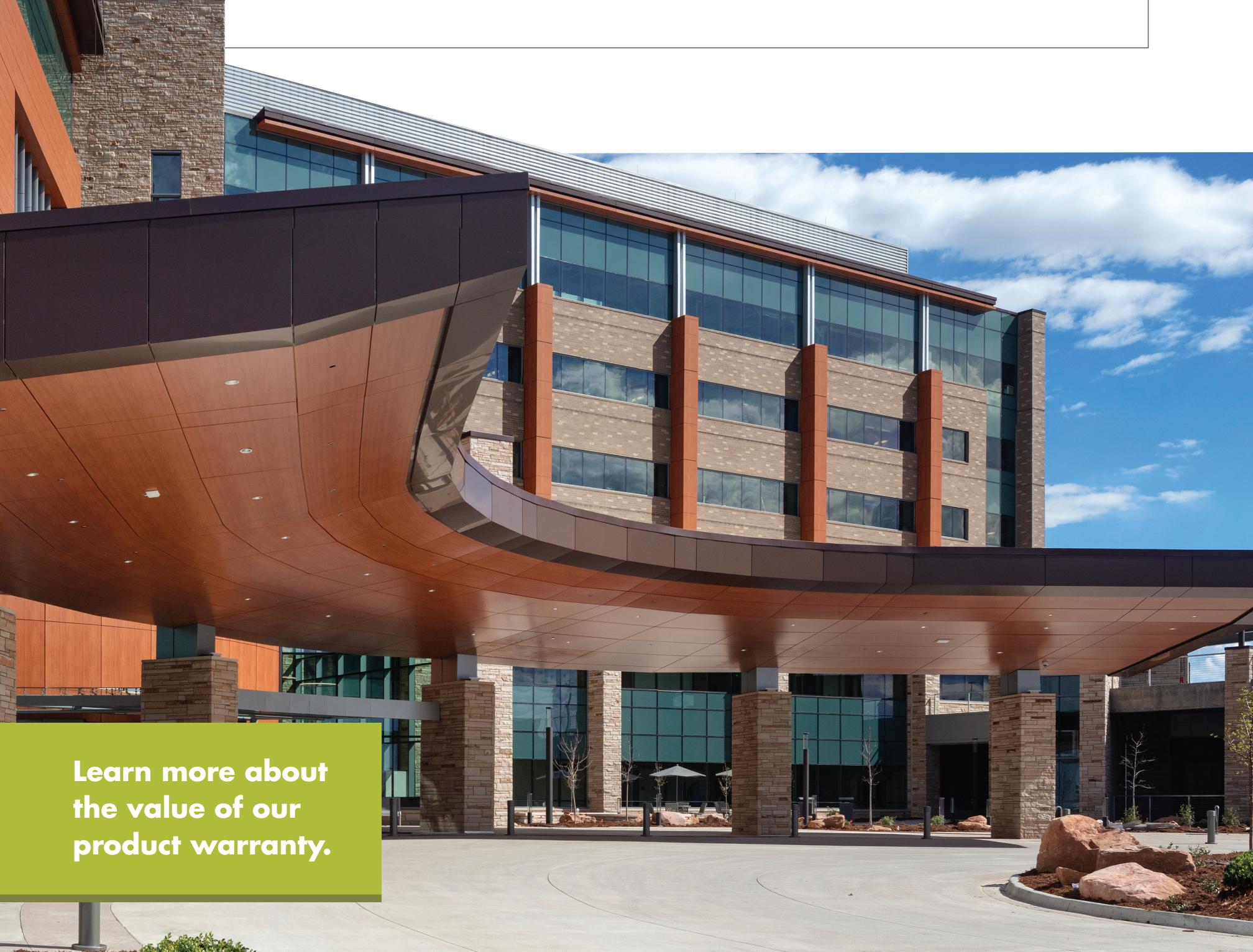
Above: Overlapping bricks at the SO-IL-designed Amant Art Campus in New York

Far left: The flared corners of the DDG- and HTO Architect-designed 180 East 88th Street in New York

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Face Off Alt-Glass

Almost as soon as it appeared at mid-century, transparent insulated glass revolutionized building design. Transformative though it was, it had its downsides—energetically taxing, the material became a death trap for birds in urban settings—which we're only coming to full grips with today. As a result, architects began in the past decade to play with translucency and opacity, opting for printed and bird-safe glass, as well as silicones, polycarbonate, and ETFE, over traditional glazing.

At the *Le Monde* headquarters in Paris (2020), Snøhetta improved on a pixelated approach to glass facades that French architect Jean Nouvel had tested out at a Chelsea, New

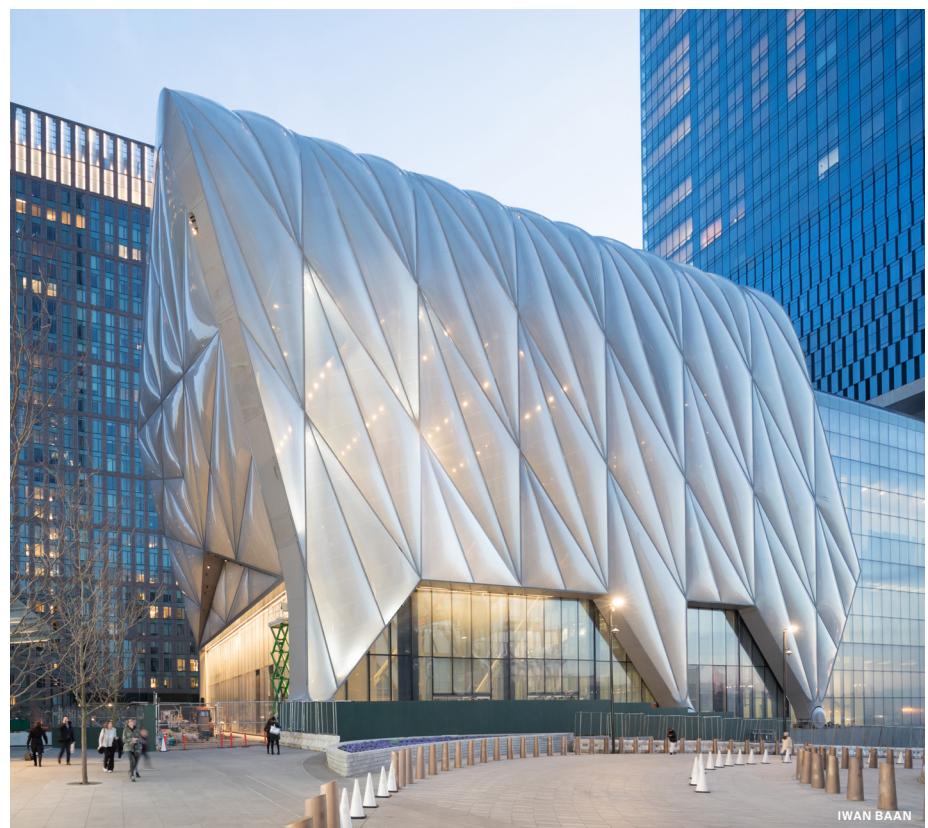
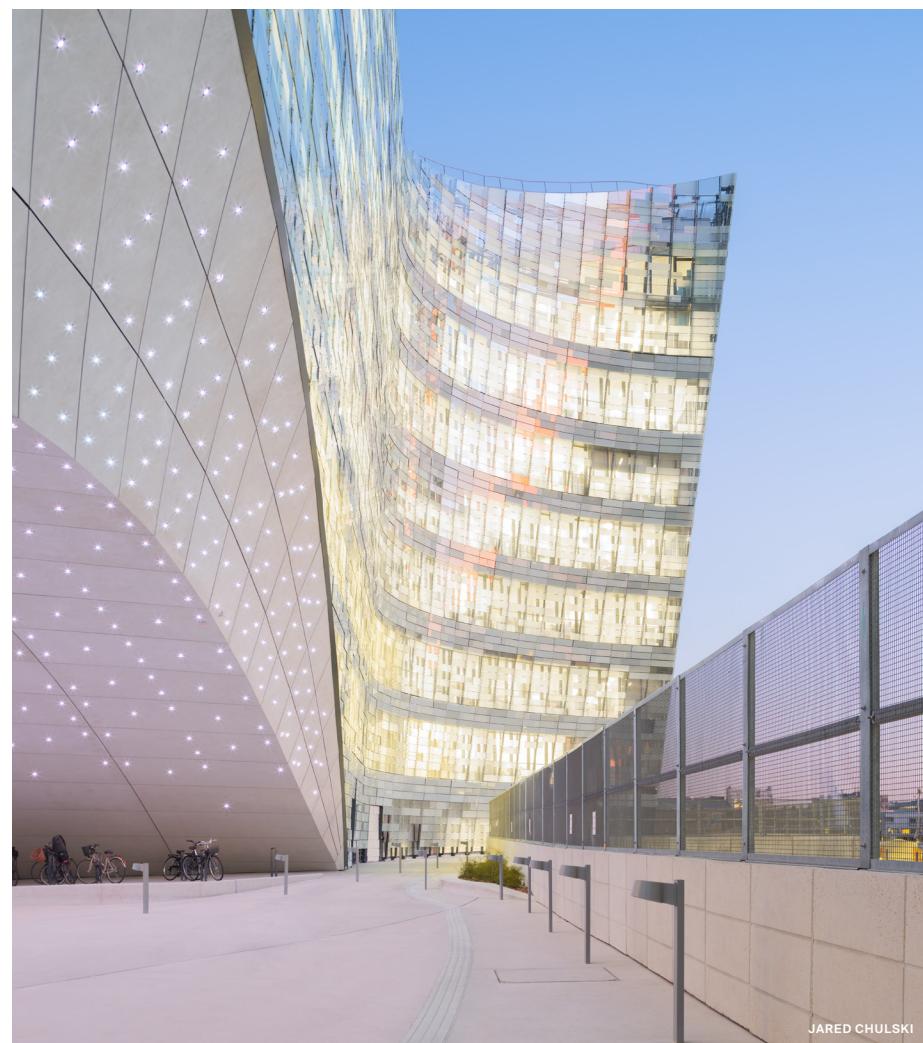
York, condo tower (2010). In Paris, Snøhetta reduced the envelope to a thin assembly of patterned and printed glass tiles—20,000 in all—strung together with bent clips. Though the pixel metaphor embraced by the architects is by now old hat, the rainscreen seamlessly mapped onto the curvilinear form of the base building.

For the net-zero ArtLab (2020) on Harvard's Cambridge, Massachusetts, campus, the Berlin-based design office Barkow Leibinger worked with Sasaki to create high-performance polycarbonate rainscreens. Common in European construction, polycarbonate offers a ghostly, but also cool, aesthetic that

should be exploited more stateside. Steven Holl Architects has found great success with translucent glass in numerous projects, particularly those in hotter, sunnier climates. The firm's design for the Nancy and Rich Kinder Building (2020) at the Museum of Fine Arts, Houston, combats heat gain and glare through a bundle of semiopaque, custom laminated-and-acid-etched glass tubes. Holl wittily refers to the tubular screen as a "cold jacket."

The Toronto-based architectural collective PARTISANS reached for a similar metaphor—a "building raincoat"—when it debuted a prototype for a deployable arrangement of ETFE in 2019. Of course, ETFE, or ethylene

ethylene, isn't glass but is increasingly being used in place of it. At the Illinois Institute of Technology in Chicago, John Ronan Architects designed an ETFE cushion envelope for the school's innovation center (2018); the milky white facade was the perfect foil for Mies van der Rohe's moody Crown Hall next door. When Diller Scofidio + Renfro looked to shed weight from the Shed in New York (2019), the firm reached for ETFE, which presented a far lighter alternative to glazing.



Top left: The Snøhetta-designed *Le Monde* headquarters in Paris

Above: The Shed in New York was designed by Diller, Scofidio + Renfro

Far left: Barkow Leibinger and Sasaki's milky facade for the ArtLab in Cambridge, Massachusetts

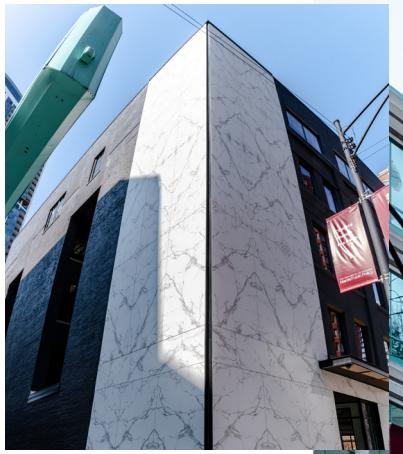
Left: The tubular facade of the Nancy and Rich Kinder Building at the Museum of Fine Arts, Houston, by Steven Holl Architects

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At the Cutting-Edge

Face Off

If glass seems outre to some, the material is hardly on the outs. In fact, architects have rethought applications and assemblies for glass with an eye toward combating its environmental defects. Their cutting-edge solutions have aimed at the same goal: transforming the building envelope from a plane to a three-dimensional field, with plenty of shadow-creating folds, edges, and soffits.

Formally, these facades approximate the appearance of diamond facets or crystal fractals. A case in point: SOM's design for the Geneva headquarters of Japan Tobacco International (JTI) Headquarters (2015), whose double-skin facade comprises interwoven tri-

angles. While typical double skins often require maintenance, the pressurized, closed cavity SOM developed for JTI prevents condensation and dust capture and minimizes air leakage.

In New York, the Studio Gang-designed 40 Tenth Avenue (2019) bares its crystalline teeth to passersby on the High Line. Two of the tower's corners have been abraded into geodelike arrangements of diamond-shaped glass panels (12 types in all); the complex massing allows for afternoon sunlight to reach the elevated park directly behind the building. In recent years, Jeanne Gang and her team have applied a similar carving procedure to many of the studio's glass projects. At the One

Hundred residential tower (2020) in St. Louis, they interspersed low-E glazing with anodized aluminum panels across tiered floors. The tower's fluted footprint multiplied the number of glazed corner units, which gave the unitized curtain wall a particularly sharp character.

Over in Berlin, Danish firm 3XN worked with facade engineer Drees & Sommer and structural engineer RSP Remmel + Sattler to scale up the faceted trend for the ten-story cube berlin (2020). Rather than chisel away at the edges of the building mass, 3XN set itself the task of working within a more regulated whole, i.e., a cube. From there, the design team applied a series of pinches and tucks, realized through great triangular swaths of solar-control glass that sometimes pull away from the perimeter to create terraces. From afar, the office building looks like a monolithic block, but when viewed closer up, it has a much more dynamic presence.

But faceting isn't only for glass. At the University of Cincinnati's Gardner Neuroscience Institute (2019), Perkins&Will worked with Structurflex to devise a tensile polyester mesh that pulls away from a curtain wall. Sawtoothed in profile, the screen minimizes glare and solar load, while also obviating the need for internal shades.

In Guangzhou, Zaha Hadid Architects' (ZHA) design for the headquarters of Infinitus China (2021) sums up the faceted fetish of the 2010s, made possible by parametric modeling software. Over the years, the firm has courted complexity with every one of its projects, and things were no different at Infinitus Plaza. ZHA outfitted a double-curved facade with perforated, lozenge-shaped aluminum panels that programmatically pull apart or tighten up where sunlight is least or greatest.



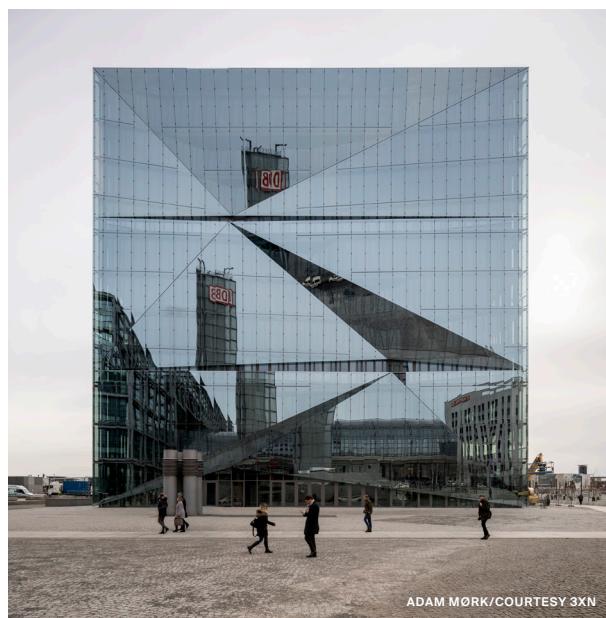
MARK HERBOTH



TOM HARRIS



LIANG XUE



ADAM MORK/COURTESY 3XN



DOROTHY SCHENCK

Top left: Perkins&Will's Gardner Neuroscience Institute in Cincinnati, Ohio

Above: The Studio Gang-designed One Hundred residential tower in St. Louis

Bottom, far left: The diamond-sharp facade of the Zaha Hadid Architects-designed Infinitus Plaza complex in Guangzhou, China

Bottom, middle: 3XN's cube berlin

Left: A carved-out corner of Studio Gang's 40 Tenth Avenue in Manhattan



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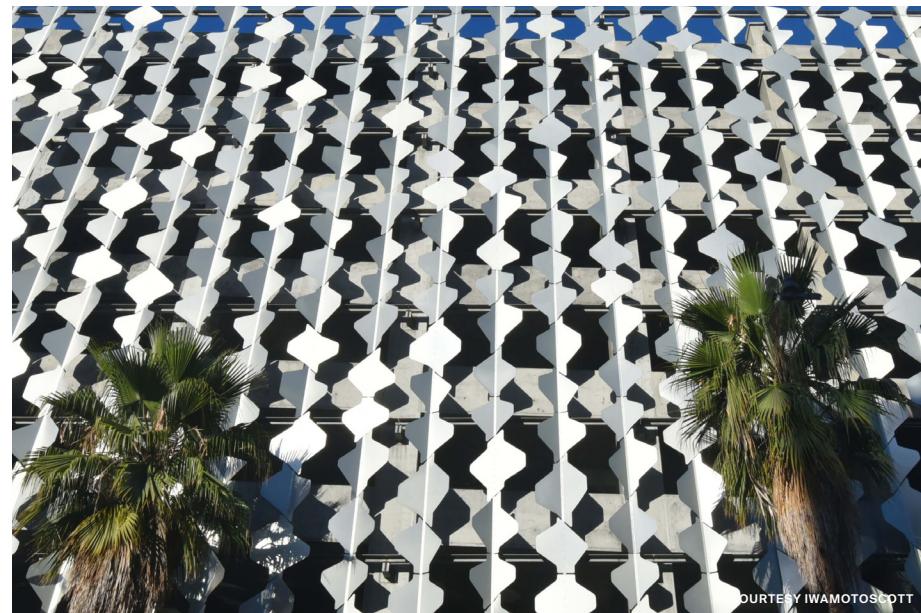
Face Off

The Fin-essed Facade

Many buildings today mount giant protective armor on their exteriors, as if they were due to enter battle. All manner of prickly protuberances—spikes, fins, radial notches—characterize the trend.

But there are plenty of chinks in this armor, and intentionally so: These buildings don't want to battle the sun as much as make a pact with it.

Noted for their solar shading abilities, the devices seem especially popular with institutional and educational clients. The facade of Payette's Interdisciplinary Science and Engineering Complex (2016) at Northeastern University showcased tightly spaced and angled aluminum panels in a moiré pattern.



Meanwhile, the Miller Hull-designed Hans Rosling Center for the University of Washington (2020) deploys angled glass fins to balance daylighting and glare concerns; fixed to a unitized curtain wall system, the projections appear to wave in the breeze. At Harvard, the LEED Platinum-certified Science and Engineering Complex (2021) sports a high-tech brise-soleil comprising hydroformed stainless-steel elements, a first of its kind. The project was designed by Behnisch Architekten, which made extensive calculations to determine the profile of each of the 14,000 facade panels.

Computational modeling is key to the success of all these schemes. Throughout

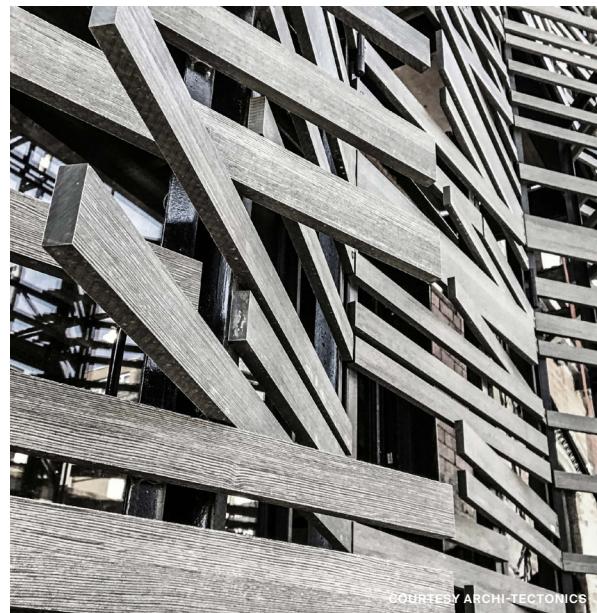
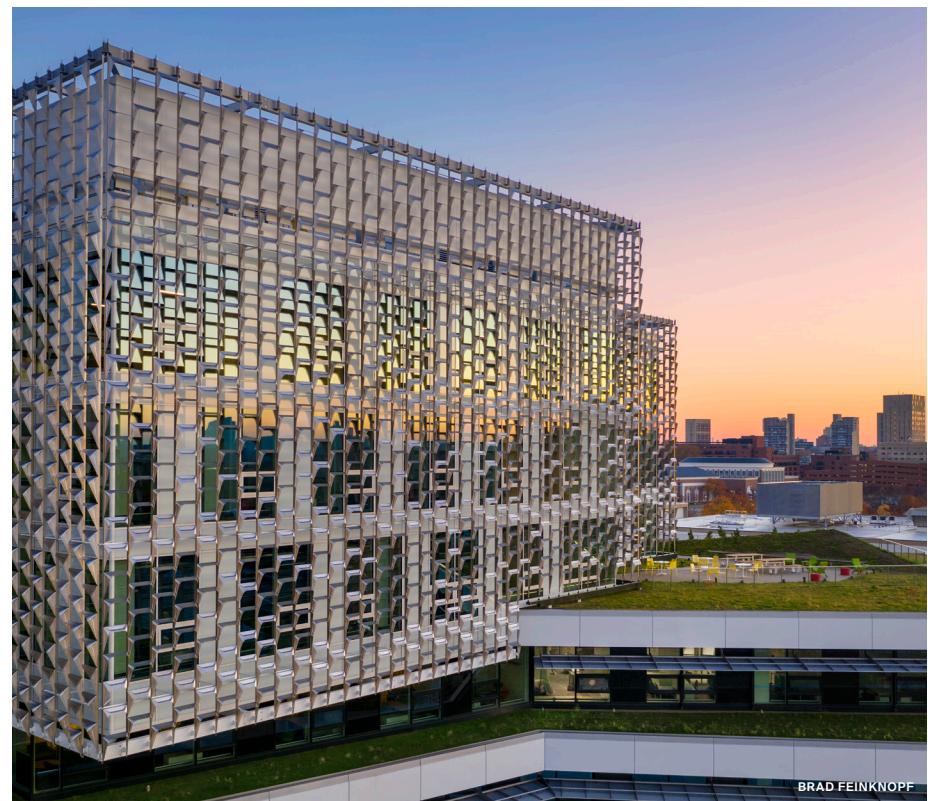
the 2010s, Morphosis, the experimental Los Angeles architecture studio, invested heavily in this research. For the headquarters of The Kolon Group (2018), a Korean conglomerate and leading textile manufacturer, Morphosis conjured a sunscreen of interlocking, parametrically designed knots using its client's own fiber products. (Though pillow-y in appearance, the elements have a tensile strength greater than iron.) For a Casablanca, Morocco, office tower (2019), the firm developed a striking, diagonal lattice screen crucial to the project's LEED Gold certification. But Morphosis upped the ante at its conference center (2021) in Nanjing, China, whose unfathomably complex brise-soleil contains 90,000 unique metallic panels.

Elsewhere in Southeast Asia, we find maybe the most self-conscious display of the trend. The Museum of Modern Aluminum (2022) in Nonthaburi, Thailand, seems frozen right at the moment of an explosion. Hundreds of aluminum shards—the museum's namesake material—jut out from all sides of the building to form a dynamic composition. Eschewing a

computational approach, HAS, the Bangkok- and Shanghai-based office behind the design, resorted to analog means such as scale models and 1:1 mockups.

Returning to the States, San Francisco studio IwamotoScott has finessed facades for that most neglected yet ubiquitous typology: the parking garage. For the 3rd Street Garage (2020) in the Golden City, the firm created a porous envelope of bent, petal-shaped aluminum panels, arranged vertically in the manner of a DNA coil. The project builds on an earlier 2015 garage commission at the Miami Design District, where IwamotoScott fashioned a delicate folded screen from staggered aluminum fins.

In New York, studio Archi-Tectonics assembled prefab panels into a trellis to passively shade a Soho townhouse (2020). Principal Winka Dubbeldam refers to the partly operable, mixed-material facade as a "climate skin." It's a moniker that could easily apply to all these projects, which no longer parse out the armor from the epidermal layer beneath.

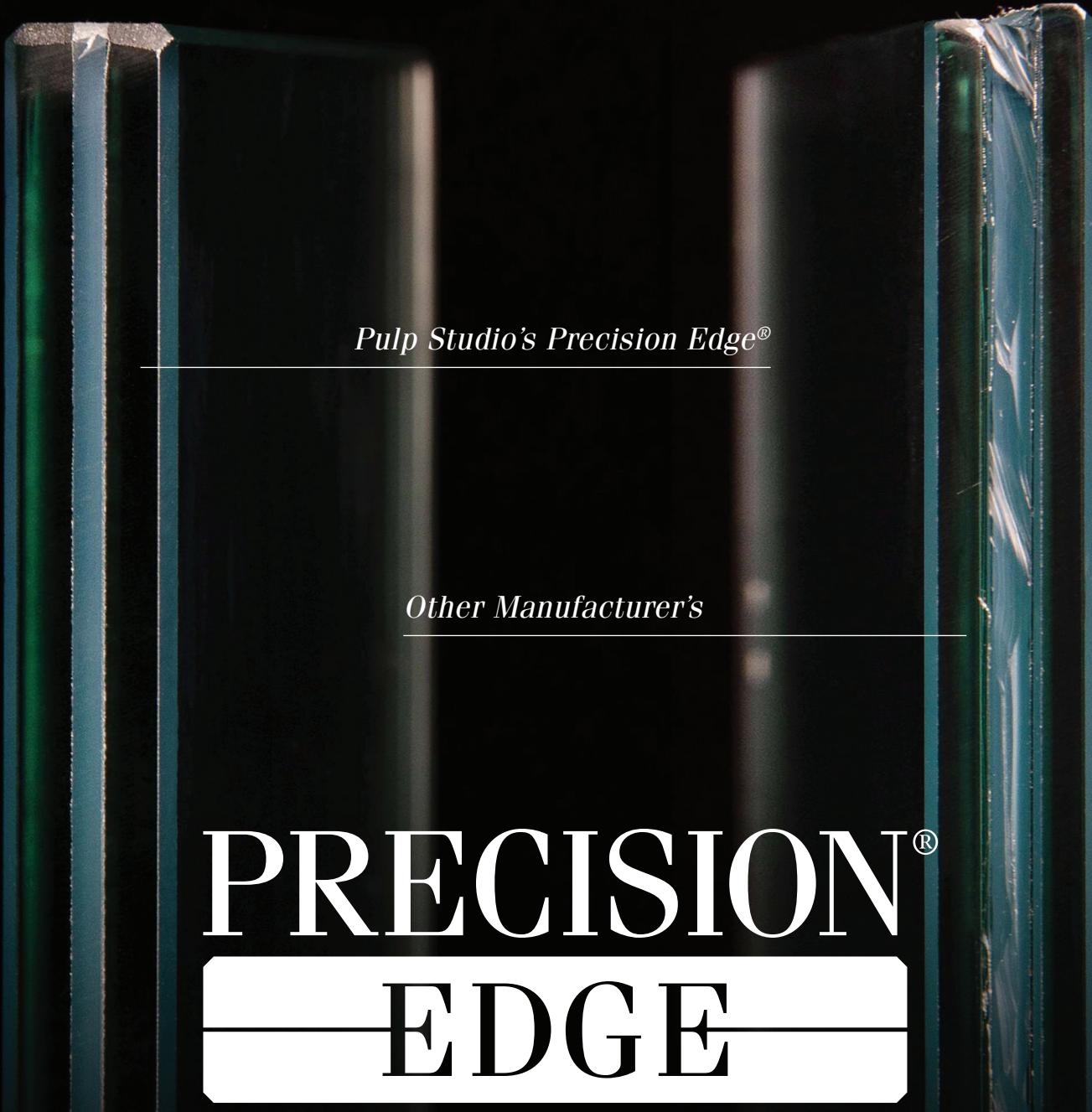


Top left: The Morphosis-designed Kolon One & Only Tower in Seoul

Above: Harvard's Science and Engineering Complex, designed by Behnisch Architekten

Far left: IwamotoScott's 3rd Street Garage in San Francisco

Left: Rotating fins at Archi-Tectonics' 512 Greenwich Street townhouse in New York



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Not Your Mama's Terra-Cotta

Face Off

Terra-cotta, that low-tech-seeming ceramic cladding with ancient roots, has made a huge comeback in recent years. New climate standards have bolstered interest in time-tested and more natural materials, with fired clay and glazed porcelain rising to the top. Today, tiles and panels in sizes ranging from a foot to 10 feet are readily available from companies such as Terreal North America, Shildan Group, and Boston Valley, though some architecture firms prefer to come up with their own solutions.

The London architecture office AL_A clad the swooping form of Lisbon's MAAT Museum (2016) with custom glazed porcelain tiles, just as it would for its expansion of the Victoria &

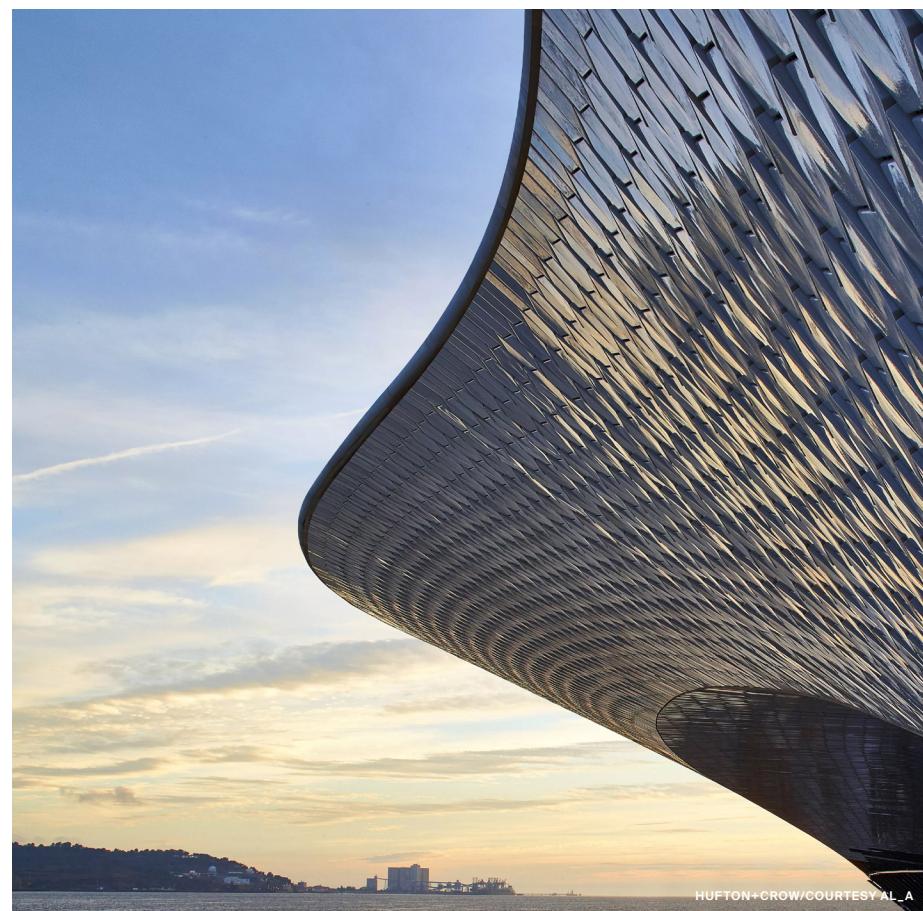
Albert Museum a year later. In New York, Sell-dorf Architects set off a terra-cotta trend when it wrapped a Soho apartment building (2015) in the stuff, colored a deep russet to match its brick-clad neighbors. Morris Adjmi Architects opted for charcoal porcelain panels for a wedge-shaped mixed-use block (2018) in the NoHo district. The SOM-designed 28&7 residential development in Chelsea is positively gleaming, thanks to its elegant black, glazed terra-cotta grid.

On the opposite coast, Kevin Daly Architects developed a composite terra-cotta rainscreen for UCLA's Herb Alpert School of Music (2015) that helped the building perform

20 percent better than state codes. And in Denver, the Olson Kundig-designed Kirkland Museum of Fine & Decorative Art (2018) offered another lesson in modifying off-the-shelf components. The firm worked with John Lewis Glass to devise gold leaf-backed glass inserts set between honey- and flaxen-hued glazed ceramic strips, with the result mimicking the mottled color of autumn leaves.

One of the most surprising things about terra-cotta is how readily it lends itself to bespoke shapes and dynamic compositions. The ribbed facade of the Meeting and Guest House at the University of Pennsylvania (2021) sets a baseline; to realize the design, Deborah

Berke Partners created volumetric "baguettes" that were manufactured by Shildan. A more complex case study is the Health Sciences Innovation Building at the University of Arizona (2019), designed by CO Architects. For the building facade, the firm modeled ten types of terra-cotta, which were used to generate 3,000-plus panels; they add a distinctive texture that recalls adobe construction. SHoP Architects played a similar game at 111 West 57th Street (2022) in Manhattan. The firm developed 13 unique dies that NBK Terracotta used to fabricate the 43,000 glazed panels that snake up the supertall's facade.



HUFTON+CROW/COURTESY AL_A



CHRIS COOPER



DAVE BURK/COURTESY SOM



ALEX FRADKIN

Top left: AL_A's swooping design for the MAAT Museum in Lisbon

Above: Gleaming black terra-cotta at SOM's 28&7 in Manhattan

Far left: Deborah Berke Partners' Meeting and Guest House at the University of Pennsylvania

Left: The Olson Kundig-designed Kirkland Museum of Fine & Decorative Art in Denver

ONE VANDERBILT New York, NY Kohn Pedersen Fox Associates



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Facade Futures

AN editors surveyed facade experts from across the U.S. to ask what's next for building envelopes.

Which materials or techniques will become dominant over the next decade?

Brandon Andow, EYP: I think we'll see a de-emphasis of glazing and increased attention to responsible window-to-wall ratios. Curtain wall industry knowledge might need to evolve to translate the advantages of unitized systems into panelized wall systems with higher performance and better material efficiencies. I think we'll also see increased attention to the embodied carbon of facade materials in addition to higher performance demands of facade system assemblies. Something radical like transparent structural aerogels could be hugely disruptive to glass, metal oxide coating, laminate, IGU, spacer, and aluminum framing markets.

Longer term, I'm hoping for more commercialized dynamic materials that can respond to changing environmental and internal loads with dynamic material properties. These products might extend the active performance we see in electrochromic windows and polyamide vapor barriers to other energy transfer mechanisms like thermal transfer and advection.

Bill Kreysler, Kreysler Associates: We believe in high strength, lightweight, resilient, and comparatively low embodied carbon materials.

Chris O'Hara, Studio NYL: The most popular trend we see is modular construction of whole building assemblies. The facade world has used unitized curtain walls for a long time, but these techniques lend themselves to glass buildings. Our modular techniques have evolved considerably to include the full opaque assembly and its transition to the vision in what we refer to as megapanel. While spandrel panels in unitized curtain wall systems have technically qualified as opaque assemblies, they have generally not performed thermally on the level we expect from these systems. The megapanel has become more prominent as window-to-wall ratios drive facades to be more opaque. Many of these are built on a light-gauge steel chassis, but we are seeing more solutions that use a unitized curtain wall chassis with continuous insulation on their exteriors. We typically see these megapanel used in dense, urban sites, as they often have challenging logistics and are tall structures which make site-built facades expensive. As energy codes drive window-to-wall ratios to be more opaque and the number of capable vendors increase, the economics of these panels will improve.

Thomas Robinson, LEVER: Facade materials will need to address larger issues such as climate change. For facades, embodied carbon needs to be measured along with its operational efficiency of a total envelope. I believe hybridized materials that have attributes beyond enclosure will take on a more significant role in the next five to ten years; examples of this include thermally modified timber for cladding or amorphous silicon solar glass for energy production. These are relatively new products that are becoming more widely available and efficient. They also impact the landscapes from which we source materials, as well as how we will power buildings more efficiently in the future.

Which materials or techniques will be phased out or disappear completely?

BK: Any material based on abundant raw material and cheap energy without regard to its embodied carbon will lose. Material manufacturing processes that result in piles of waste cannot continue. Material such as Portland cement concrete, steel, and even aluminum will give way to smarter bespoke "assemblies" that minimize embodied and use-phase energy, ultimately resulting in monocoque structures where the skins of buildings will serve as their structure as well. This has already happened in the fabrication of ships and aircraft. It will happen in construction as well.

COH: It's hard to believe that there are many curtain wall systems on the market that are not thermally broken. These should disappear completely.

TR: I don't think specific materials will be phased out, but I do think there will be more emphasis on and requirements for cradle-to-cradle tracking of harmful chemicals and processes used when producing facades. This will accelerate the already ongoing evolution towards less toxic adhesives, materials, and the like.



What material or technology are you most excited about that is coming to market?

BK: I'm excited about advanced composites and other anisotropic materials where strength is engineered into a system as needed and isn't wasted, as is often the case with isotropic material.

COH: Two things. The first is the Fremarq retrofit product, which we recently used on West Carolina University's Ramsey Center and the Denver Performing Arts Center, Buell Theatre. The product is a pultruded fiber-reinforced polymer veneer glazing system that can be mounted on existing mullions. With analysis, we were able to justify using the existing mullions to accept new insulated glass and meet current wind requirements while drastically improving the thermal performance of the system. This results in improving the operational carbon impact while also helping the embodied carbon by saving all of the existing mullions. Anodized aluminum isn't readily recyclable, so the embodied energy for new mullions is very high. This was a win-win scenario.

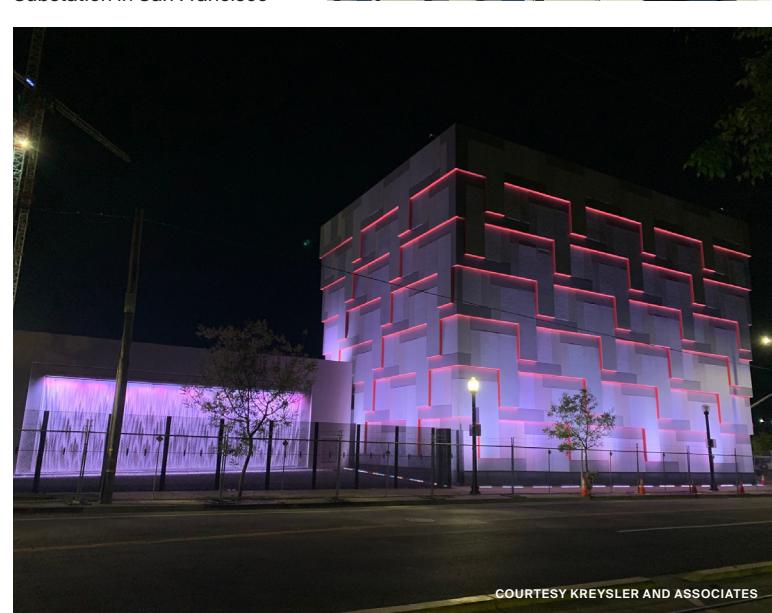
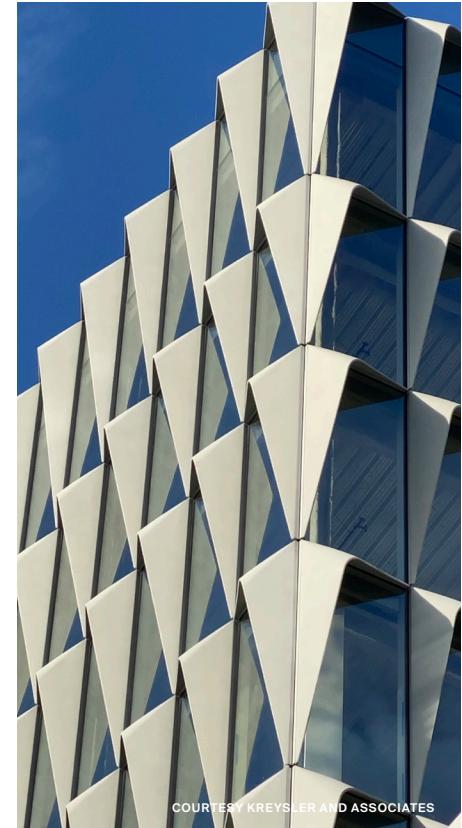
The second is—that I hope is coming soon—is vacuum-insulated glazing. This will be a game changer once it's economically feasible.

TR: I am most excited about "new" materials derived from traditional materials such as timber and clay. Thermally modified wood has new levels of durability that are starting to be leveraged around the world; it also replaces tropical hardwoods and their associated deforestation. Clay and rammed earth are starting to become mainstream facade materials and can be pre-cast into larger panels that also address issues around climate control. Facades are evolving into much more than enclosures, and they're becoming part of larger systems that address issues we collectively face as a society.

Any other thoughts on the immediate future of facades? What can the industry do better?

BK: We had better hurry up! The status quo is not an option.

COH: We can do better at embracing the intent of the code when it comes to thermal breaks and continuous insulation. This is required by code and has been for a while, but it's different from what the industry has been doing for the last 20 years, so the transition has been slow. There also seems to be a sentiment that these elements are easy enough to do on a simple box but that they're not necessary for bespoke architecture. With some ingenuity and analysis, we can still develop and detail these systems for the complex forms and heroic cantilevers we see in our favorite architectural masterpieces. This is similar to what we covered in our workshops at last month's Facades+ New York event.



UNIQUE, DISTINCT, FACADES,



Williston Basin International Airport

Location: Williston, ND
Architect: Alliance

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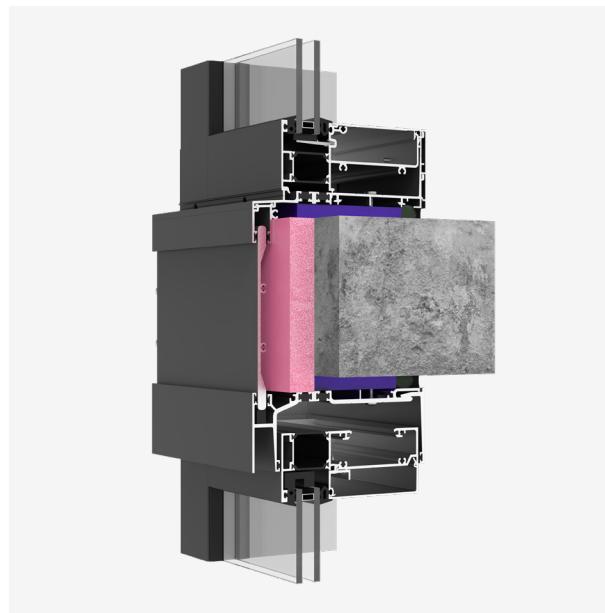
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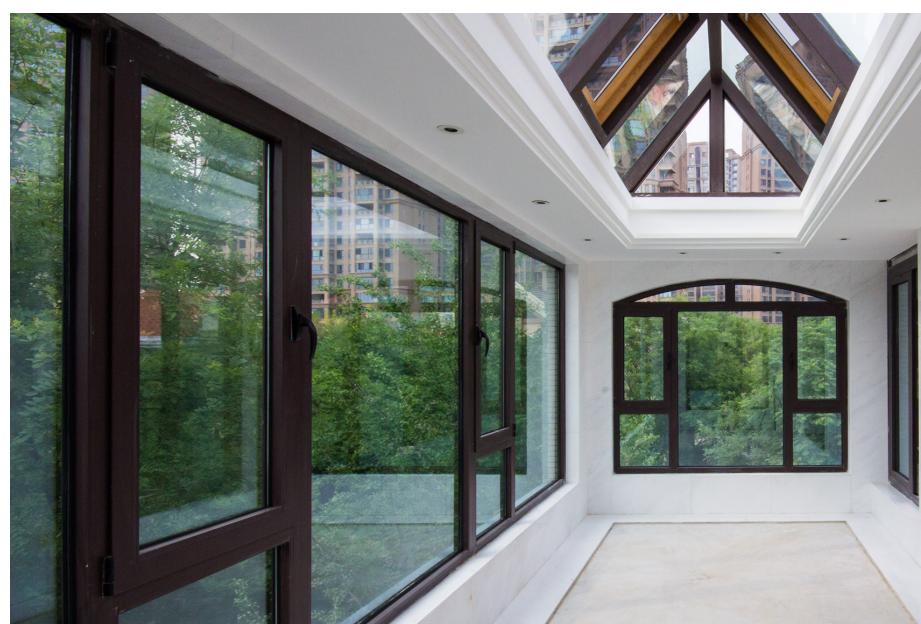
YWW 60 XT Thermally Broken Window Wall System
YKK AP
ykkap.com



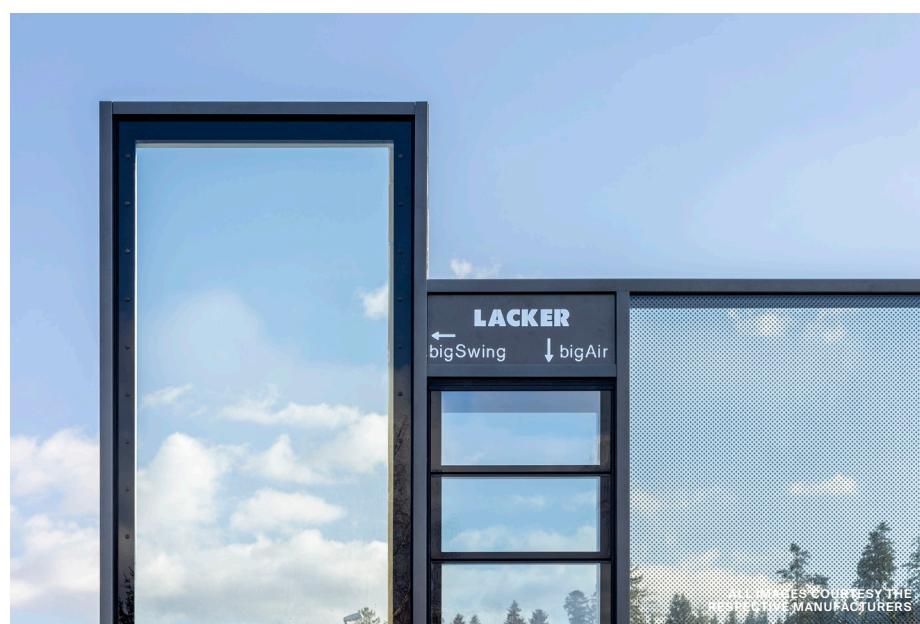
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Guardian Glass
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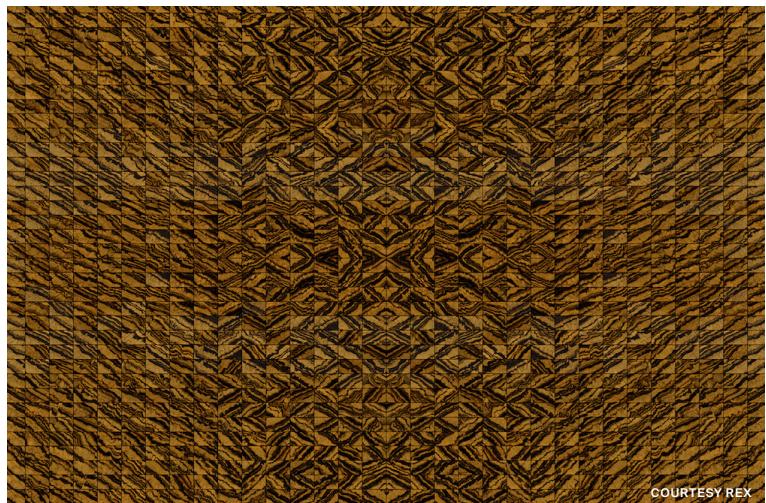
56 Case Study

AN FOCUS

May 2022

Marble Beacon

The REX-designed Ronald O. Perelman Performing Arts Center is clad with a stone-glass facade that masks its structural complexity.



Design architect: REX
Executive architect: Davis Brody Bond
Location: New York

Construction manager: Scilame
Structural engineer: Magnusson Klemencic Associates
Facade contractor: Gartner
Facade fabricator: Permasteelisa Gartner
Stone fabricator: LSI
Glass fabricator: AGC
IGU fabricator: Interpane

More than two decades after the terrorist attacks of September 11, the reconstruction of the World Trade Center complex remains a work in progress. The effort mixes the politics of collective trauma and memory with structural and infrastructural complexity, plus the interests of real estate developers. Dozens of master plans and architectural schemes have been pitched and shelved over the years. Today, the area is home to both memorials and shimmering corporate edifices. The Ronald O. Perelman Performing Arts Center (PAC), designed by New York-based architecture firm REX with executive architect Davis Brody Bond, is a crucial addition.

Sharing a block with One World Trade Center, whose tapered curtain wall quickly became a symbol of 21st-century New York, the PAC sounds a marmoreal, if not funerary, note. Its semitranslucent stone-glass facade, continuous on all four sides, masks serious structural sorcery under a veil of purist simplicity.

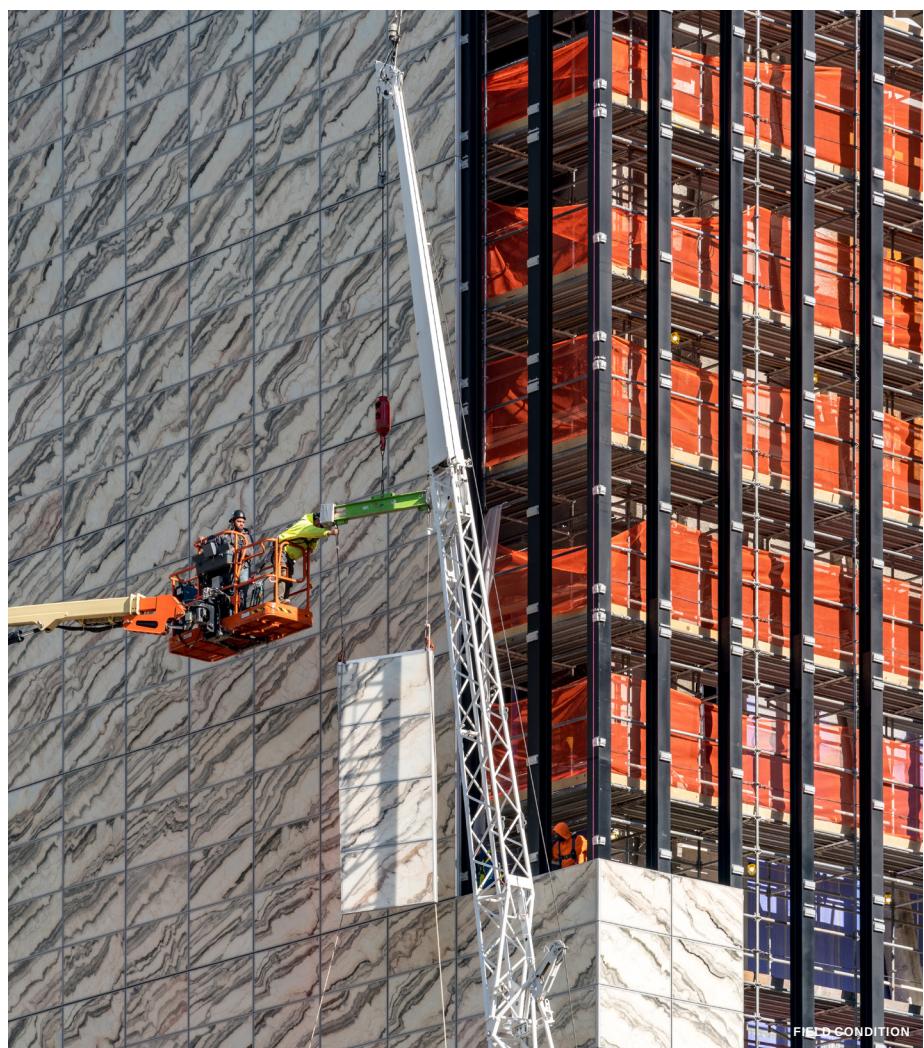
The project was originally awarded to Gehry Partners and Snøhetta in 2004, but following the exit of the Joyce Theater and Signature Theater as stakeholders, the commission

passed to REX and Davis Brody Bond in 2014. The 90,000-square-foot complex is named for philanthropist Ronald O. Perelman, who donated \$75 million to the cause in 2016. Building works, led by Scilame Construction, commenced in 2019 and are expected to wrap in 2023.

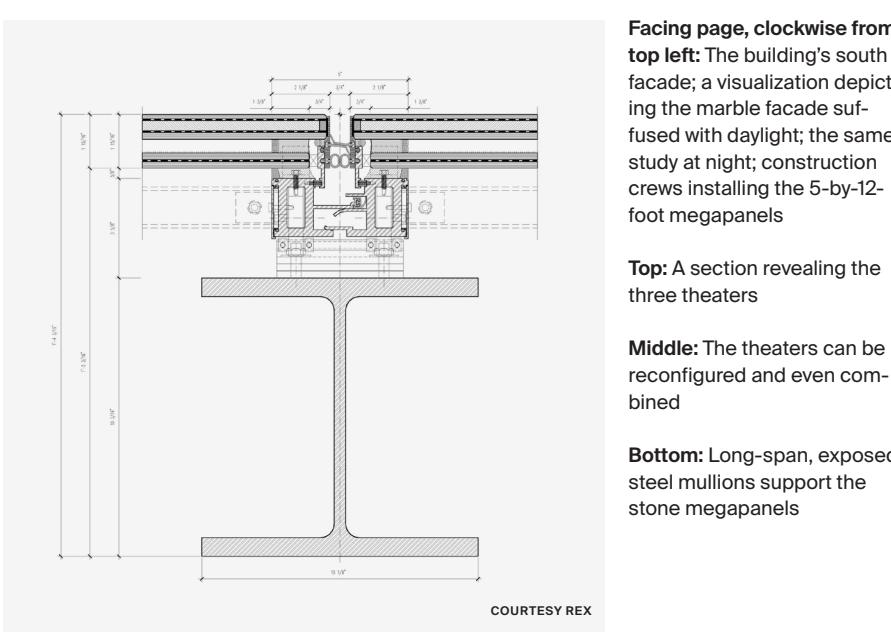
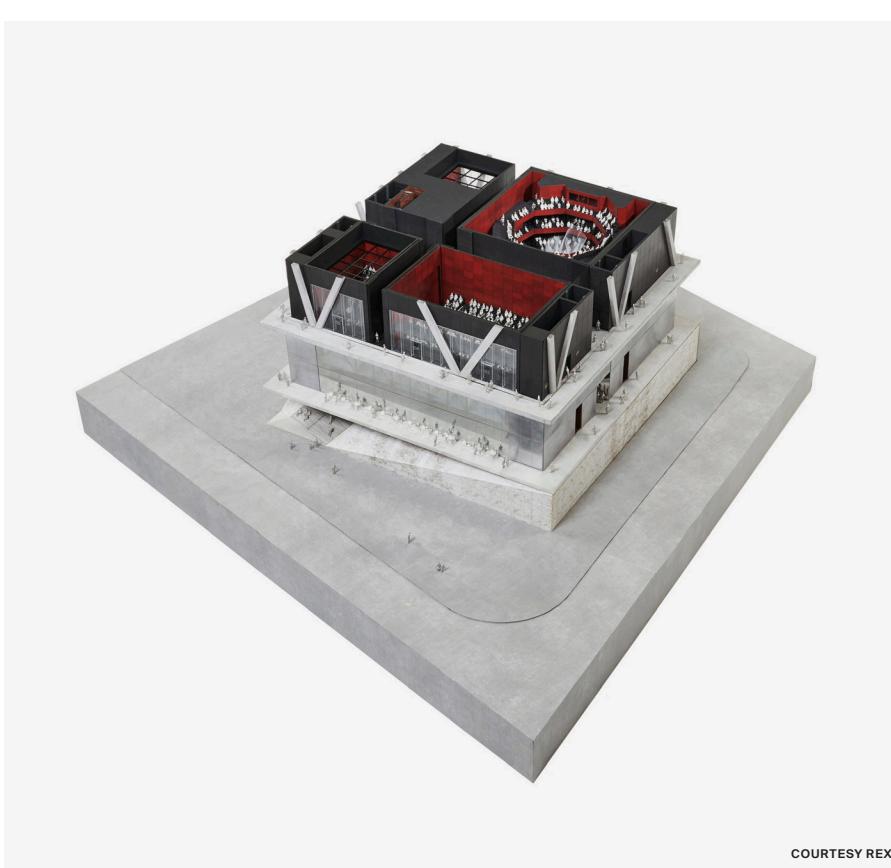
For REX's founding principal, Joshua Prince-Ramus, the most important aspect of the PAC's design "was to create a concept that was simultaneously respectful yet managed to have an important identity that conveyed the building as the object signifying the restorative powers of art." He noted that the scheme needed to be conscious of its context and possess a certain sober deference.

The PAC rises from a highly complex site in New York. It is, in effect, the tip of the proverbial iceberg for approximately four stories of subterranean operational space belonging to the Port Authority, which include a PATH rail line and truck loading bays. This sunken infrastructural knot ruled out a conventional foundation. Instead, the design team, in collaboration with structural engineer Magnusson Klemencic Associates (MKA), was handed a predetermined foundation system by the Port Authority that dictated seven load paths to the concrete structure below—all of which are located outside the building footprint.

Jay Taylor, senior principal at MKA, explained what this process entailed. "We were provided a spreadsheet that listed the load capacity at every one of those points, so we generated what we called the 'red dot diagram' to illustrate what was going on below grade," he recalled. The team "had to reverse-engineer the building and develop a concept that started with the foundation," which "evolved into a



57 Case Study



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58 Case Study

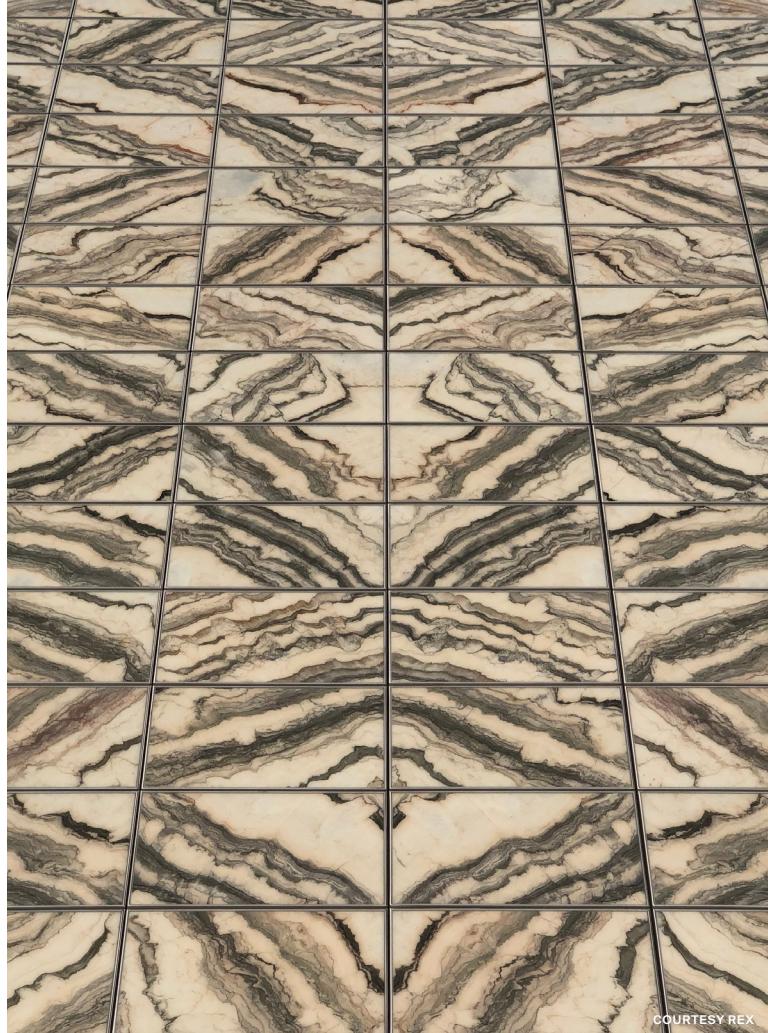
AN FOCUS

May 2022

Marble Beacon *continued*



FIELD CONDITION



COURTESY REX

system to engage all of the points that support a building. Basically, it's a three-dimensional vertical truss system that takes all the loads to those seven points of support." (The structure also incorporates base isolators to dampen the rumble of public transit below so as not to ruin performances above.)

This heroic feat is concealed behind the project's intensely mesmerizing marble facade. Each elevation is nearly identical and employs both horizontal and vertical symmetry whose center lines define a turbulent zone of densely veined panels. The design of the facade marks yet another partnership between REX and facade consultant Front, continuing a nearly two-decade partnership.

The lively marble array, set between layers of glass, "exceeded our wildest dreams," said Prince-Ramus, who recently presented the project at AN's Facades+ New York conference. Achieving the facade patterning is nothing short of miraculous, considering the great lengths that the stone had to journey, beginning at a mountainside quarry in Estremoz, Portugal.

Once quarried, the marble was processed by Portuguese stone fabricator LSI. Then the nearly 5,000 5-by-3-foot marble tiles, each 12 millimeters thick, were shipped to France by AGC; the individual pieces were triple-laminated on their exterior faces, double-laminated on their interior faces, and treated with a low-e coating. Their trek continued to Germany, where fabricator Interpane placed them within insulated glazed units. Then the panels were shipped to Permasteelisa Gartner's plant in Gundelfingen, Germany, where they were semiunitized into 5-by-12-foot megapanel, four tiles tall. This size is similar to unitized glass curtain wall panels found on any standard

commercial office building, which simplified packaging, shipping, and, ultimately, installation in Lower Manhattan.

Drawing inspiration from Yale's Beinecke Library, designed by Gordon Bunshaft in the early 1960s, the PAC facade also glows at night. The stone goes almost to the end of the panel, except for "a small edge sealant to protect the stone from any kind of delamination," noted Marc Simmons, a partner at Front. This arrangement "allows the transmitted light to glow around the steel and aluminum [structure], which is a key aesthetic element, as opposed to a huge amount of visual shadowing from the opaque frame."

That same attention to detail is applied to the programming and layout of the PAC's three auditoriums. But this count is misleading, Prince-Ramus said; in fact, the PAC has "three primal configurations that can be conjoined into 22 different configurations." Similarly, the circulation is flexible, so "any portion of it can be defined as front of house or back of house. You can share the Wagnerian experience where the public circulates around an auditorium, or you can stage an intermission zone between different auditoriums in simultaneous use."

When the PAC opens next year, it will add a geologic glow to the galaxy of New York's cultural destinations. **Matthew Marani**



COURTESY SCIAME



COURTESY PERMASTEELISA GARTNER

Clockwise from top left:
Installing the east facade;
bookmatched marble panels;
Granogoli's stone quarry in
Portugal; the panels at
Permasteelisa Gartner's
Gundelfingen, Germany, factory

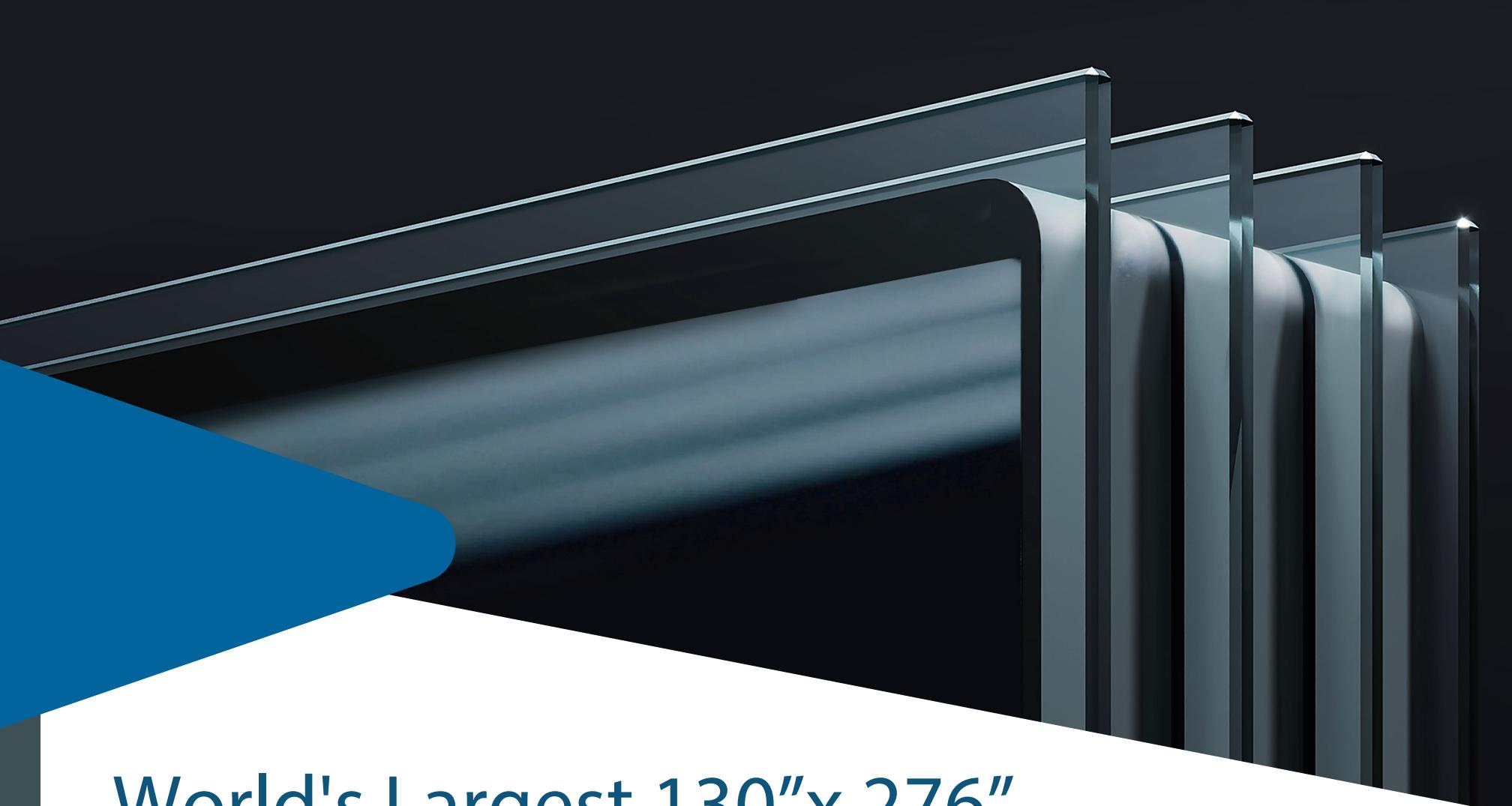


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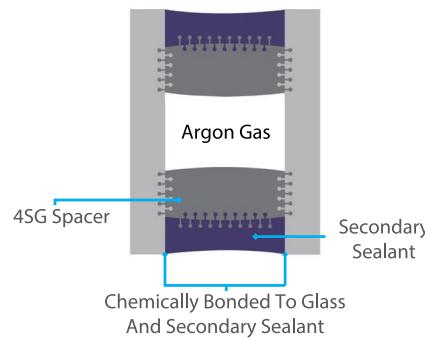


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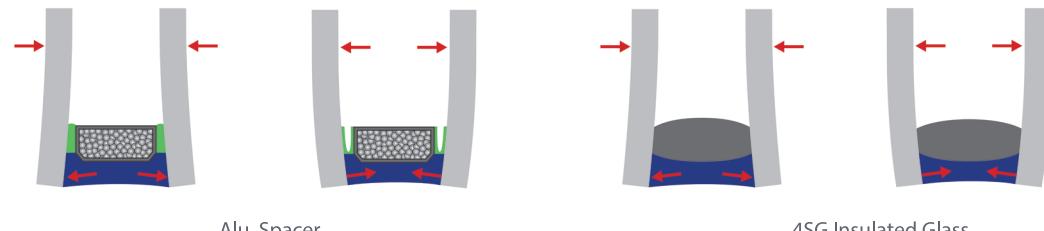
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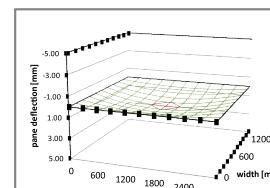


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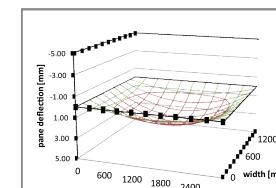
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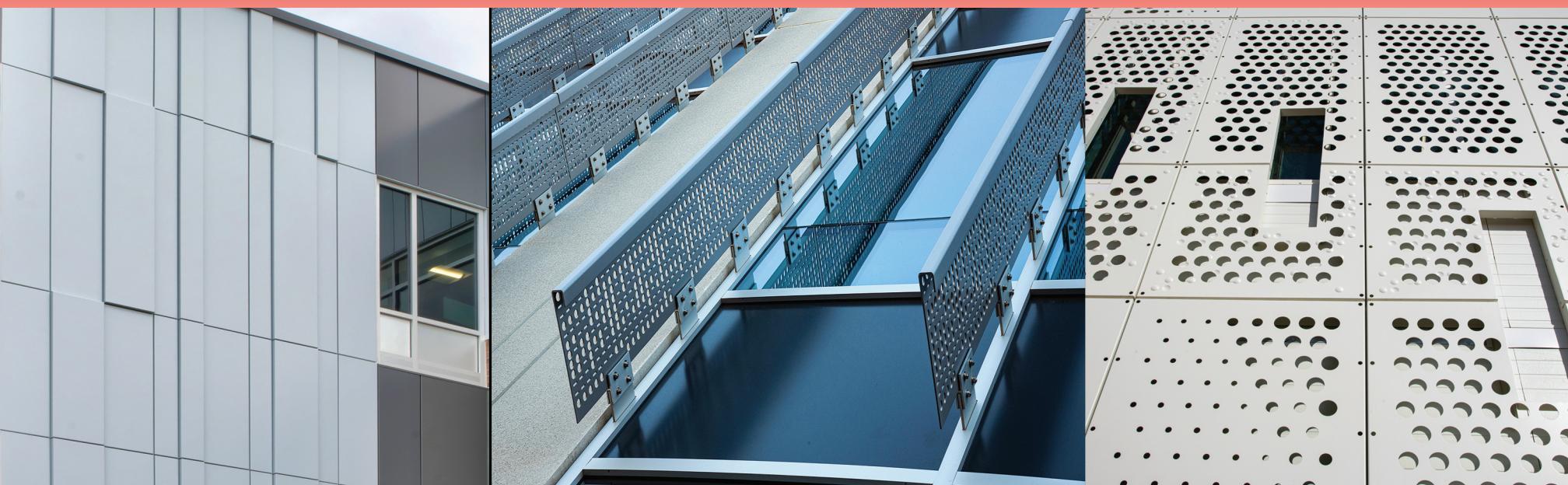
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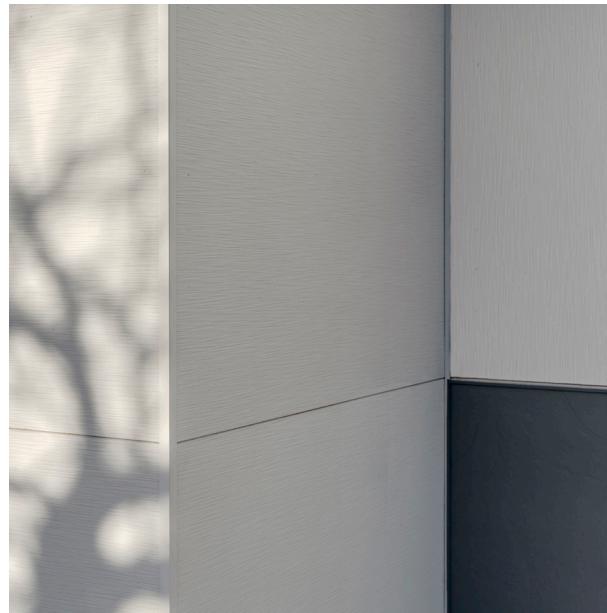
62 Products

AN FOCUS

May 2022

Composites

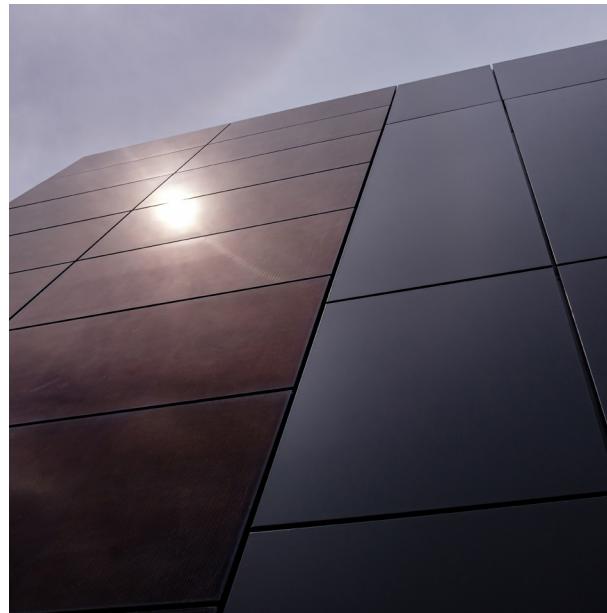
Bringing together the best elements within natural and engineered materials, composite facades deliver unmatched performance, often at considerably lower price points. The following selection caters to a wide range of aesthetic sensibilities and applications, expanding exterior conditions across every project type. Sophie Aliece Hollis



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James Hardie
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StoColor Metallic Finish
Sto Corp
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Solstex
Elemex
elemex.com



Wildwood Composite Cladding
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Sealed to Perfection

Growing knowledge about the importance of tight building envelopes inspires an extensive case study during construction of the Credit Human building in San Antonio.

According to the latest estimates, building operations account for 28 percent of global carbon emissions. A report from the United Nations' Intergovernmental Panel on Climate Change found that reducing energy consumption by buildings in turn reduces carbon dioxide emissions. One of the best ways to do this is to improve the airtightness of building envelopes, which vary widely in terms of performance. Research by the United States Department of Energy reveals that air leakage accounts for about 6 percent of the total energy used by commercial buildings in the U.S. More specifically, about 15 percent of the energy used by the envelopes of commercial buildings was due to air leakage. Knowing this, how can building industry professionals better design, specify, and deliver projects that reduce this transmission?

An air barrier reduces airflow between interior and exterior environments. It's one component of a complete weather barrier assembly, along with a heat (thermal) barrier and a vapor retarder. As defined by the Air Barrier Association of America, a weather barrier is a "set of assemblies designed to resist the loads imposed by all elements of the weather, including solar, wind, airborne debris, heat, flooding, liquid water, and water vapor—commonly referred to as the building enclosure."

Many materials can perform the function of an air barrier. Because these layers control flows through a building envelope, materials can end up satisfying multiple functions; for example, a fluid-applied membrane can serve as a barrier against water, vapor, and air.

Air barriers were one aspect of an impressive environmental strategy undertaken during the realization of a new building for Credit Human in San Antonio. Designed by Don B. McDonald Architect with Kirksey Architecture and built by Joeris, the classically styled center near the bustling Pearl Brewery stacks eight floors of office space over four parking levels. The project "leverages biophilic principles, elevated indoor air quality, and material transparency to create an environment that radiates wellness," according to Kirksey.

Steve Hennigan, Credit Human's president/CEO, was intent on making a healthy interior environment for the company's employees. This vision, for which Hennigan set ambitious climatic goals, extended to air leakage. While the U.S. Army Corps of Engineers' standard for airtightness is 0.25 cfm/sf @ 75 pa, project leaders set a target rate of 0.1 cfm/sf @ 75 pa. To ensure that this goal was met, Joeris undertook extensive on-site testing and later documented it in an in-depth case study. (The full deliverable is available online.)

To start, curtain wall units were shop water tested prior to installation. The building, which utilized a Carlisle air and vapor barrier along with other sealant products, contained 311 envelope penetrations and utilized 9,184 brick ties, each of which was sealed with BarriTech VP to avoid possible air leakage. Flashing and termination sealant were inspected to avoid "fish mouthing," or crinkling. Basement CMU and core walls were sealed, and waterproofing and an air barrier were installed between the garage levels and upper interior floors. Cold joints on the underside of the roof were also sealed using a fire spray product.

Detailed inspection of waterproofing included water testing and selected demolition to observe water movement below finished surfaces. TSI Energy Solutions conducted tests using a PosiTTest air leak tester in addition

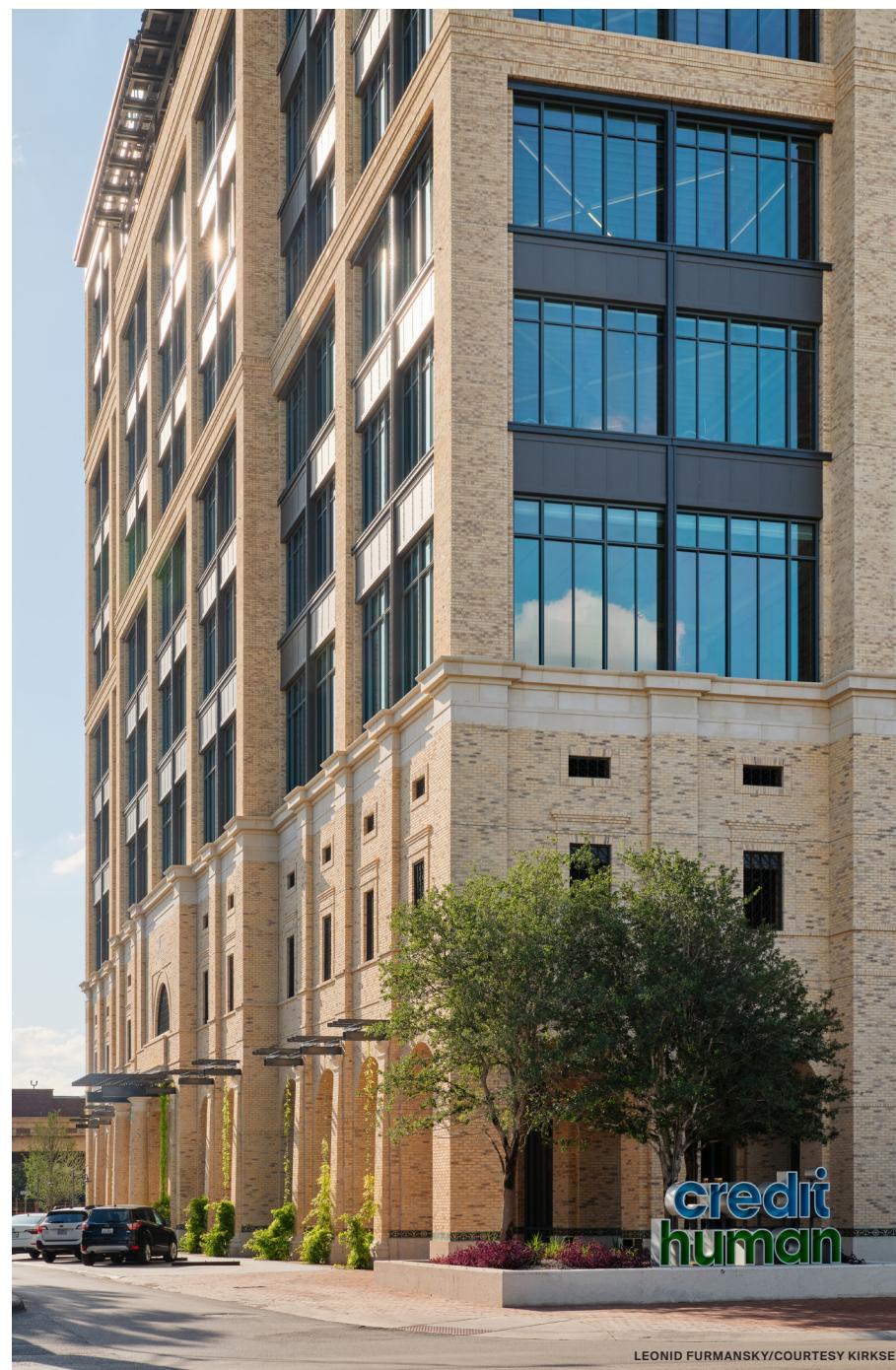
to blower and water tests carried out by others. Results found that the tops and bottoms of interior walls were the weakest points for air transmission, and floors especially, as dust and debris weren't cleared before an acoustical sealant was installed, creating a leak, in addition to screwheads that weren't taped and floated or covered by an air barrier. Additional small gaps were inspected and filled after installation, such as on exterior sills where fire-rated sealant was used.

How did the Credit Human building fare on the whole? Final test results revealed an extremely low amount of air leakage, meeting the goal set by Hennigan. This was paired with other sustainability features, including geo-thermal wells, rooftop solar installations, and rainwater catchment. Consequently, the LEED Platinum-certified facility uses 96 percent less electricity from the grid and 97 percent less municipal water than a typical building of its size. Diligent air barrier installation reduces operational expenditures for a building over its lifetime. It might be a small savings when compared with global figures, but every bit helps.

Jack Murphy



CRAIG CUNY/COURTESY JOERIS



LEONID FURMANSKY/COURTESY KIRKSEY

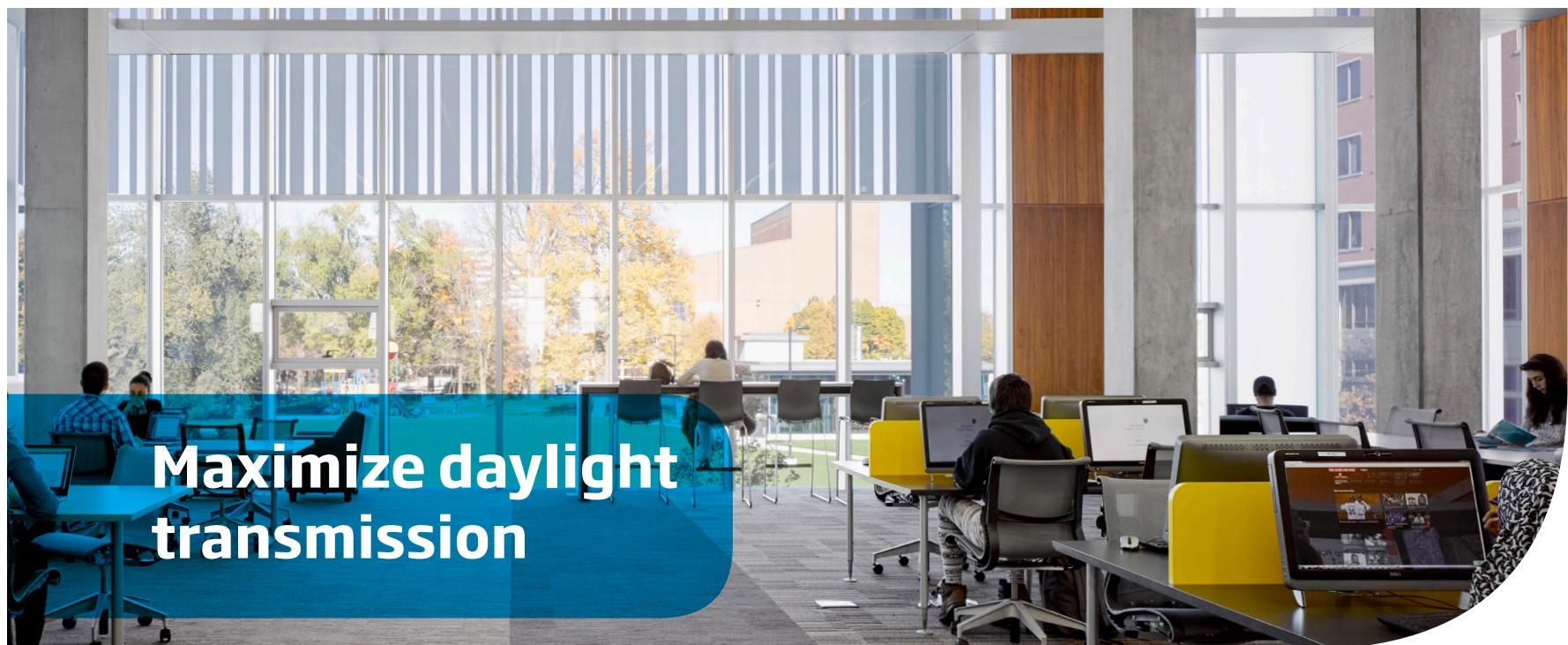


CRAIG CUNY/COURTESY JOERIS

Top: The complex's two short towers rise between US-291 and Broadway north of downtown.

Above: Extensive testing of individual penetrations ensured that consistent airtightness was achieved across elevations.

Left: The facade's layers of environmental performance are concealed behind brick, stone, and metal finish materials.



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Southeast

June 15

Mid-Atlantic

July 13

Midwest

August 3

Tri-State

September 14

Southwest

October 12

Southeast

Oct 26

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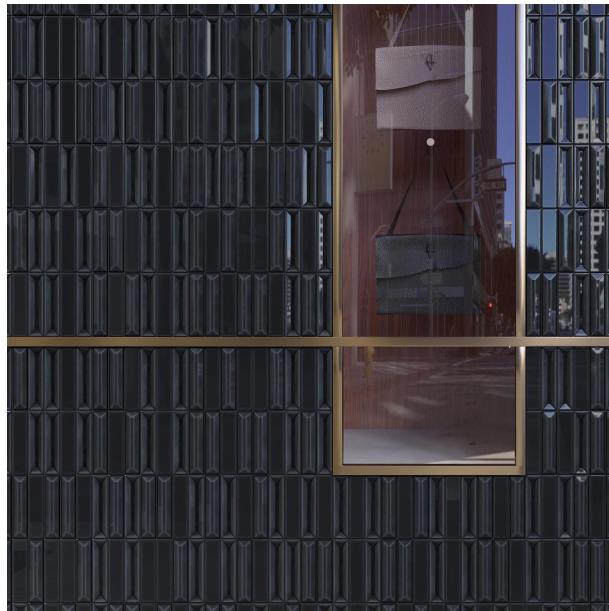
66 Products

AN FOCUS

May 2022

Ceramics

Much of the beauty of 19th-century architecture was surface-level. That's not a criticism. The facades of these buildings—whether in New York, St. Louis, or elsewhere—were intricate tapestries of ceramic tile, carvings, insignia, and other ornamentation. In recent years, manufacturers have returned to this time-tested material, and architects have begun using terra-cotta in ways more complex than their Victorian counterparts could have ever dreamed of. These products deliver dynamic and durable ceramic options for new projects looking to tie into this long lineage. Sophie Aiece Hollis



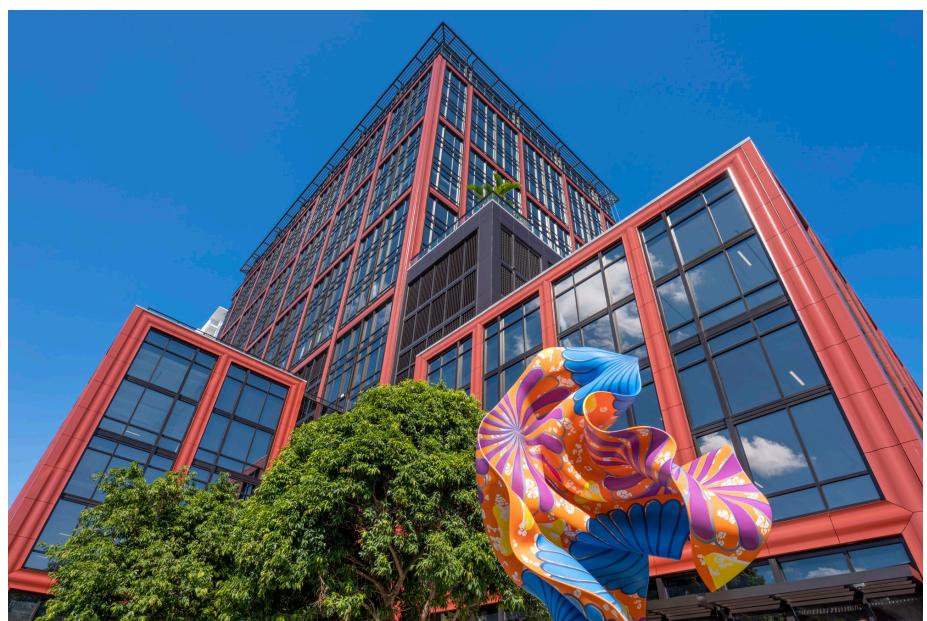
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Theater in the Round

OMA's Taipei Performing Arts Center lifts theater spaces over a bustling night market.



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Architect: OMA (Rem Koolhaas and David Gianotten)

Architect of record: Kris Yao | ARTECH

Location: Taipei, Taiwan

Structural engineer: Evergreen Consulting Engineering Inc.

Structure, MEP, building physics, fire engineer: Arup

Theater equipment contractor: L&K Engineering Co. Ltd., IX Co. Ltd., JR Clancy

Facade construction: Sun-Sea Construction Co. Ltd.

Facade engineer: ABT, CDC Inc.

Corrugated glass: Cricursa

Aluminum manufacturer: Yu Lin Machine Company Ltd.

box is fully illuminated, the various functions of this "machine for theater" become immediately legible, so that "the public [can] take visual ownership of it," said Chiaju Lin, an OMA associate who headed up the project.

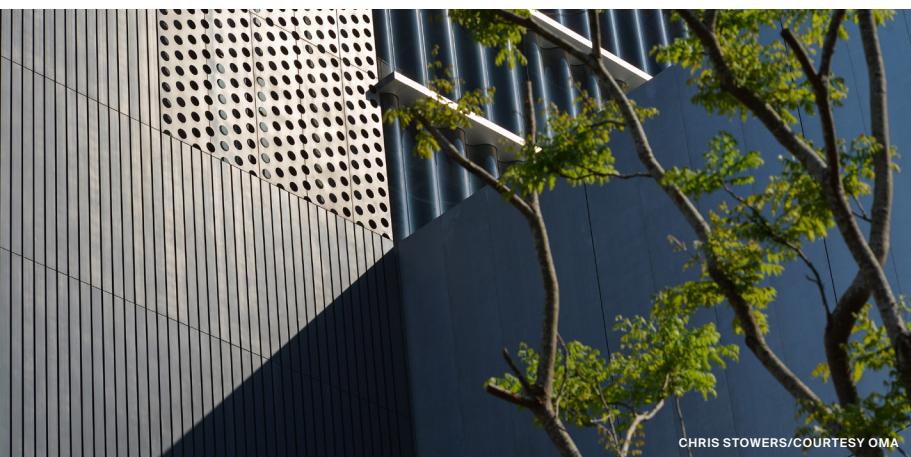
Though it appears light and ephemeral, the facade is sturdy enough to withstand everything from typhoons to earthquakes. (Both are common in the region.) Individual panels were fabricated in the Barcelona factory of renowned glass manufacturer Cricursa. The volumes that trisect it house theaters and are clad in a 3-millimeter-thick aluminum alloy normally reserved for manufacturing boats. It was shipped from Germany in large rolls to be fabricated near the site, where the glossy top-layer material was meticulously removed by hand. "We couldn't find a grinding machine large enough," said Lin, "so it had to be treated the old-fashioned way." This treatment lends a subtle wave pattern to the panels that comes alive in highlights and shadows.

While the panels of the angular Grand Theater and Blue Box theater (together, they form the Super Theater) were installed as large rectangular sheets, the spherical Globe Playhouse required its own novel set of fabrication techniques. To form the outer panels, the sheets were machine-cut to a human scale so they could be welded together on-site, following a digital model. In a gesture of old-fashioned craftsmanship, the welding joints were then "erased" by hand, leaving behind a faint white grid pattern within the larger triangular panels.

"These human touches are deliberate elements of the final design," Lin said. "They demonstrate that this 'machine for theater' was not itself made by machines, but a dedicated construction team." **Shane Reiner-Roth**

A glassy cube of epic proportions with strange protrusions has crash-landed at the southern edge of the Shilin Night Market, one of Taipei's busiest centers of trade and tourism. A sphere hovers in space, visually fixed to the corrugated glass curtain wall and assisted by nothing other than a slender pair of pillars that terminate in the plaza several stories below. The fact that the hefty-seeming volume is also supported by an internal concrete frame is, even upon close inspection, neatly concealed by layers of sumptuous veneers.

Fourteen years in the making, the OMA-designed Taipei Performing Arts Center announces its purpose to its busy surrounds. From the nearby plaza, the cube's rippling glass invites glances through the hall's color-coded rooms: pink for rehearsal spaces, green for offices, and brown for lounge spaces. Viewed from inside the lobby, the load-bearing glass distorts the views out to the plaza. At night, when the



CHRIS STOWERS/COURTESY OMA



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Top: The massing comprises simple, oversize volumes, each one faced in different materials

Middle: The largest volume (a cube) is wrapped in corrugated glass, while the intersecting volumes are outfitted in aluminum alloy panels.

Bottom: Structural corrugated glass also featured at OMA's Casa da Musica (2005) in Porto, Portugal

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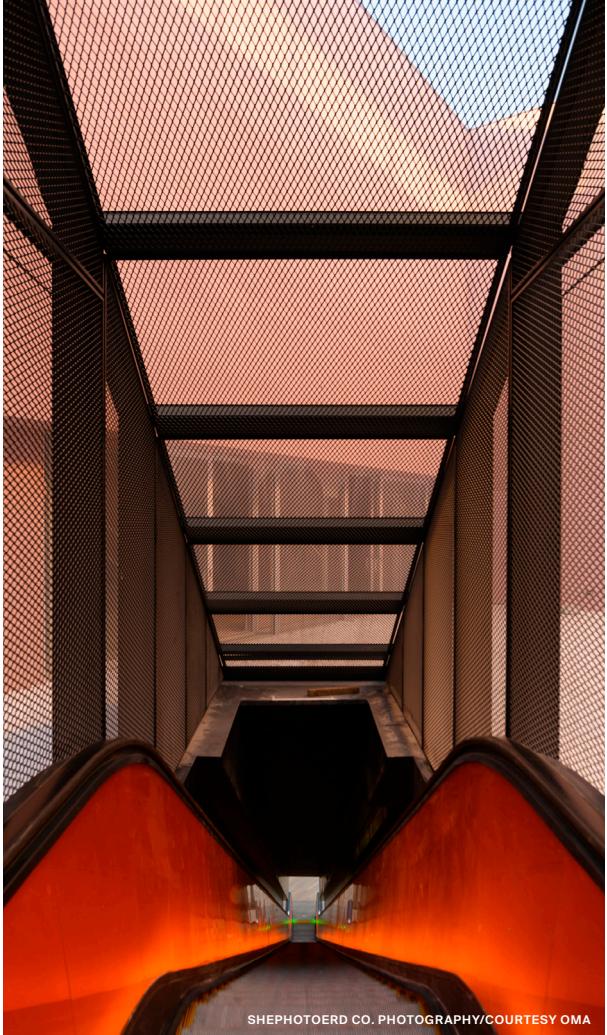
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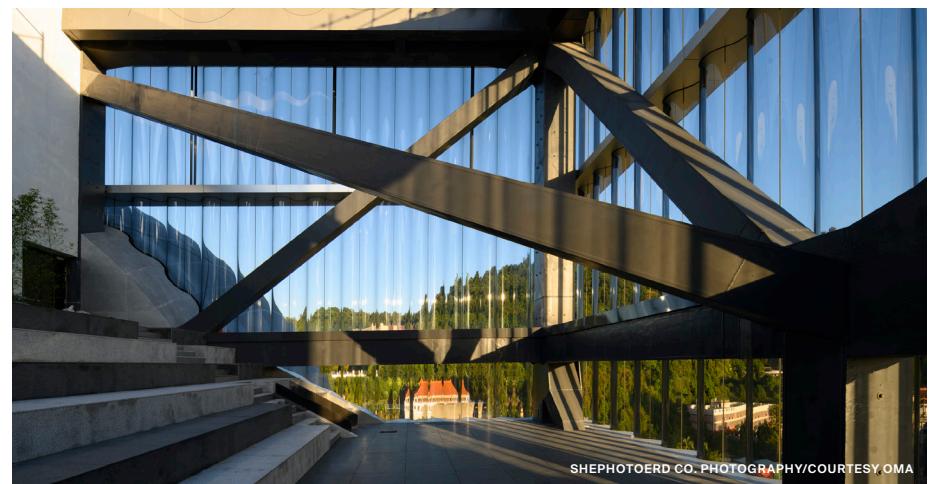
Theater in the Round *continued*



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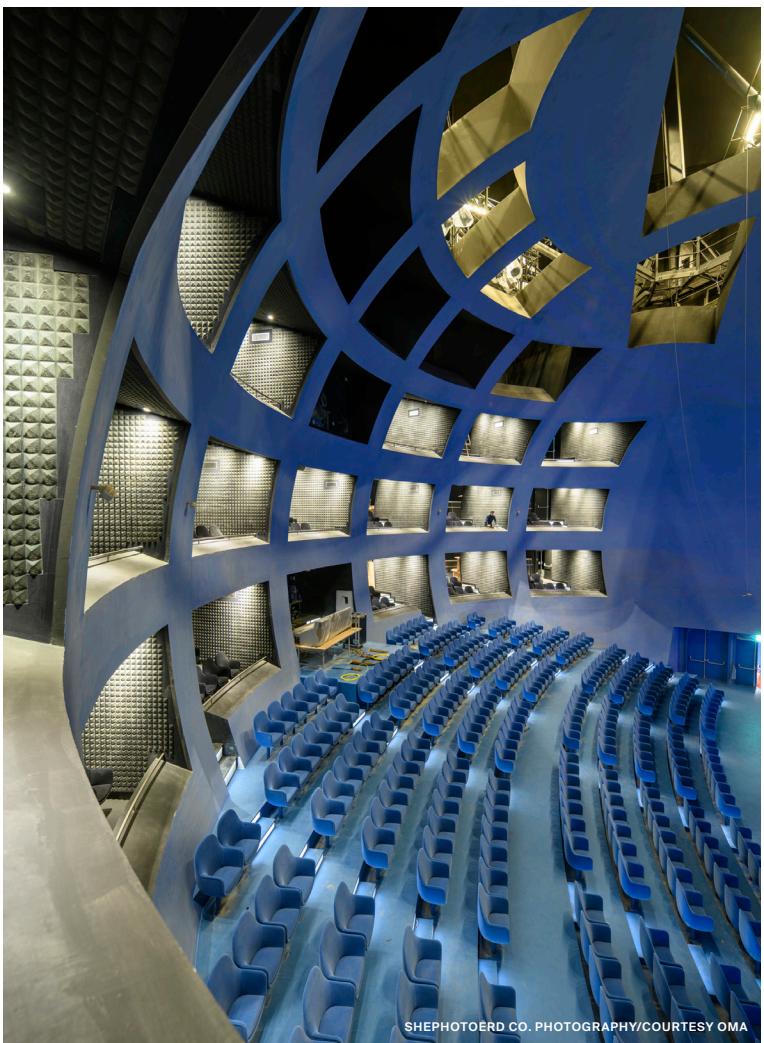


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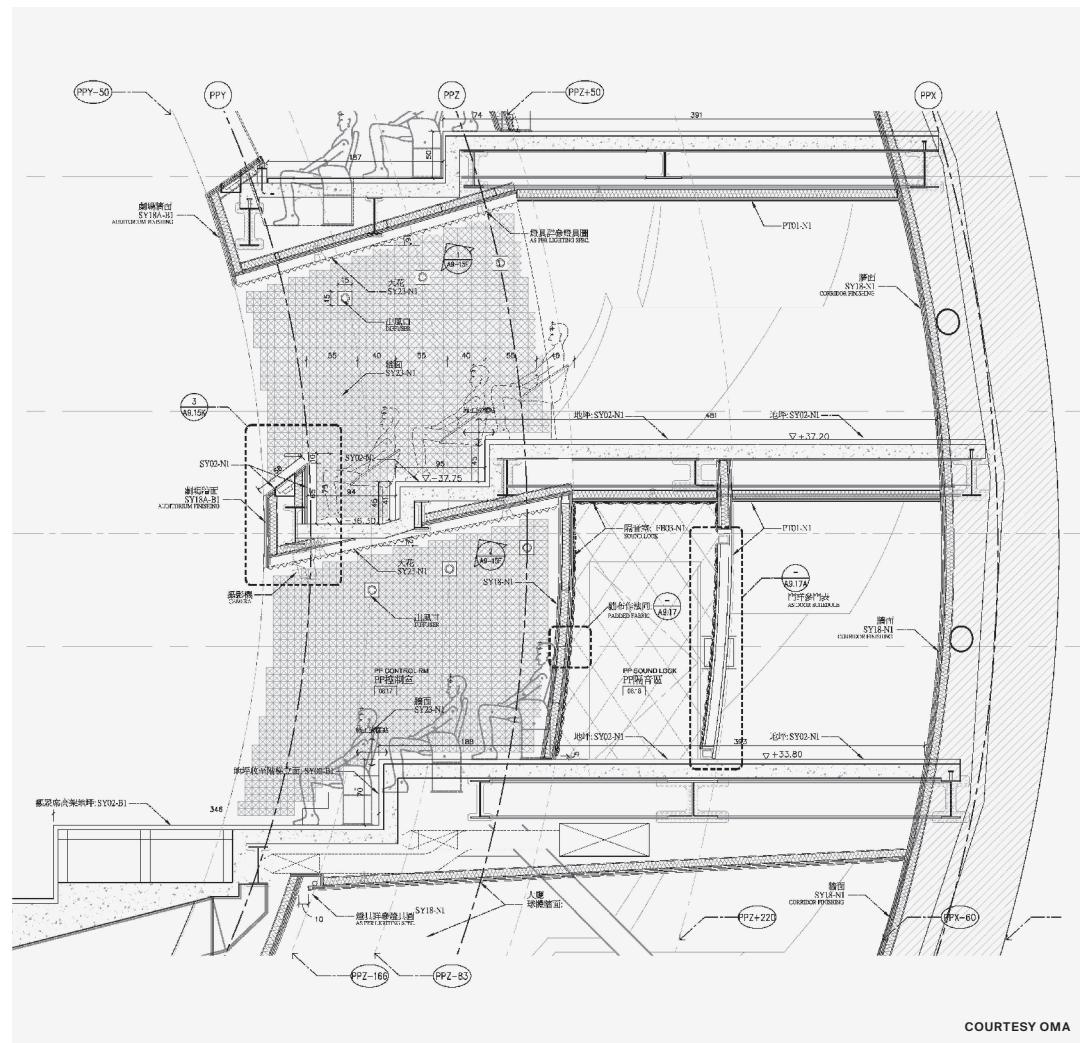


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Clockwise from above: The Blue Box can be combined with the Grand Theater to form the Super Theater; the Public Loop, which runs through the complex, affords visitors a glimpse of back-of-house operations; the Globe Playhouse; a section through the Playhouse; and the corrugated glass-enclosed rooftop terrace



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Case Studies in Brief

Glorya Kaufman Performing Arts Center

Los Angeles

Architect: AUX Architecture
General contractor: Shawmut Design and Construction
Project management: Gardiner & Theobald
Structural engineer: Nous Engineering
Polycarbonate manufacturer: EXTECH

Located in a former synagogue on the Vista Del Mar medical campus, the Glorya Kaufman Performing Arts Center (GKPAC) is a multifaceted hub for the institution's therapeutic arts program. Designed by AUX Architecture, the new center hosts a range of activities including dance, music, theatrical productions, educational efforts, and community events geared to draw the wider neighborhood, and neighborhoods beyond, to the Vista Del Mar campus. In addition to the facility anchoring, 300-seat theater, the GKPAC includes a variety of production support areas and flexible spaces that can serve as classrooms, rehearsal spaces, and more depending on specific programming needs.

Brian Wickersham, principal of AUX, told *AN* that the synagogue building was rarely used outside of the

High Holidays. "It was always intended to be a catalyst for change on the campus, but functionally it has been transformed into a building that could be used seven days a week, both day and night," he said.

Notably, the adaptive reuse of the building, which is estimated to have reduced the carbon footprint of the project by roughly 100 metric tons of embodied CO₂, employs the extensive use of translucent polycarbonate panels—one of the largest architectural wall installations of its kind for a cultural building in Southern California. Both insulating the existing building and drawing in natural daylighting to the addition's accessory spaces and classrooms, the GKPAC's glowing polycarbonate skin preserves the campus's temple while also "completely revitalizing it," said Wickersham. **Matt Hickman**



NIC LEHOUX

The Clay Studio

Philadelphia

Architect: DIGSAU
Face brick: Glen-Gery
Glazed thin brick: McNear
Engineered brick ties: Hohmann & Barnard
Weather barrier: Henry
Sheathing: Georgia-Pacific
Storefront, entries, and window systems: Kawneer

The Clay Studio, a long-standing Philadelphia nonprofit art center, will soon be moving into a new building in the city's South Kensington neighborhood. Designed by DIGSAU, the approximately 37,000-square-foot building will include galleries, studios and kiln rooms, a rooftop terrace, and outdoor space for the Claymobile, a mobile clay facility intended for children.

The expansive program pushed the building right up to zoning-height and property-line limits. As the facade couldn't protrude any farther out, the architects resolved to represent the clay-making process through smart material choice. "We sought bricks that had an imprecise and heavily varied texture express-

ing that they were once raw clay," DIGSAU associate Jesse Mainwaring told *AN*. "We also knew early on that the color of the bricks had to stand apart from the traditional red-brick facades ubiquitous to Philly."

After an extensive review, the architects selected buff bricks from Glen-Gery's Pittsburgh factory for their clean color and subtle texture and an orange glazed brick from McNear for its heavier texture and "luminous" glaze work, Mainwaring said.

In addition to the brick, the facade is shaped by corbeling around the windows, which adds depth to what is a mostly flat surface. Masons prepared a series of mock-ups to fine-tune the corbels, and although the brick is arranged rectilinearly across the flat sections of the facade, the handiwork of the masons lends the facade subtle, but important, imperfections. **Chris Walton**



COURTESY DIGSAU

Neutron Research Centre

Grenoble, France

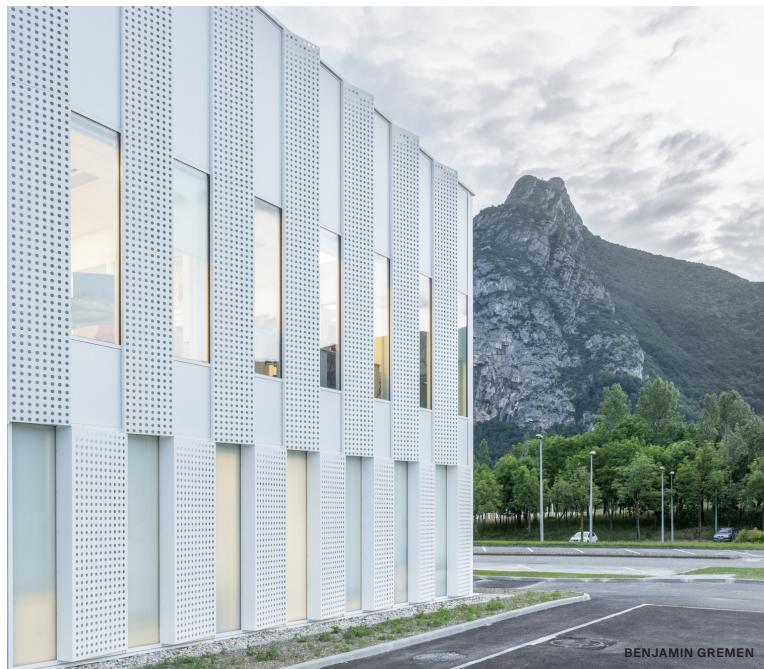
Architects: Levitt Bernstein, TKMT
Aluminum curtain wall system: Wicona
Insulated solid metal panels: L'Émaillerie Alsacienne
Double glazing with sun protection: AGC
Perforated aluminum panels: Local fabricators, Rhône-Alpes region, France

Set against an Alpine backdrop, the white aluminum-and-glass facade of the Neutron Research Centre at Institut Laue-Langevin (ILL) shines not only as a center for scientific work but as an architectural statement as well. Designed by Levitt Bernstein and TKMT in Grenoble, France, the building provides space for offices, a medical center, a visitor center, and conference rooms in addition to research facilities.

Besides providing highly specialized spaces for research, ILL wanted the building to be a new face of its work to visitors. These considerations led the architects to break up the rhythmic facade, consisting of alternating solid and glazed areas, at key moments, such as when a large glazed section frames a concrete spiral

staircase. "It was important that the stair, with its softer appearance, acted as a foil to the otherwise rectilinear building and angular cladding," said Levitt Bernstein chairman Gary Tidmarsh.

The facade's perforated angled fins were inspired by the research conducted inside. When a neutron beam is fired through a sample material, the neutrons scatter, resulting in a pattern of dots in the detector plane, according to Tidmarsh. A monochromator directs the beams through the sample, so the design team took the angle of the monochromator and applied it to the facade. The perforations recall the scattered dot pattern present on the detector plane and were carefully arrayed so as not to disrupt the clarity of the design and interior spaces. **Chris Walton**



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Case Studies in Brief *continued*

Shenzhen Rural Commercial Bank

Shenzhen, China

Architect: SOM
Contractors and curtain wall: Jangho Group
Construction manager: Shenzhen Vanke Real Estate

Standing out with its diagrid facade, SOM's Shenzhen Rural Commercial Bank brings high performance standards to one of the city's new business districts. The tower's diagrid structure not only shapes its aesthetic profile and relieves the need for interior columns in spaces such as the public bank, amenity areas, and cafeteria, but also provides solar shading that outperforms a standard all-glass curtain wall.

Louvres allow fresh air to enter through two atria that span the full height of the tower, and all offices have operable windows. (Each floor is equipped with automated mechanized shades, reducing cooling loads in Shenzhen's often humid climate.) The atria also collect air from each floor, redirecting it to the mechanical floor to be treated and redistributed. SOM likened this function to "airways in a body... cycling fresh air throughout the building."

According to the architects, "the construction sequencing was a unique challenge as the curtain wall had to be installed after the [diagrid] structure was completed. Traditionally, the curtain wall is the outermost face of a building, but for this tower, the curtain wall is inboard of the structure. The team designed special notched curtain wall units so that they could be threaded around the diagrid node connections."

The top of each node's cladding had to be angled to deflect rain to prevent streaking and ponding. The relation between the building's interior and the external climate further required particularly careful modeling for the thermal and moisture barriers to avoid not only water accumulation but also "significant temperature differentials between the exterior structure and interior beams," the architects added. **Chris Walton**



Agrotopia

Roeselare, Belgium

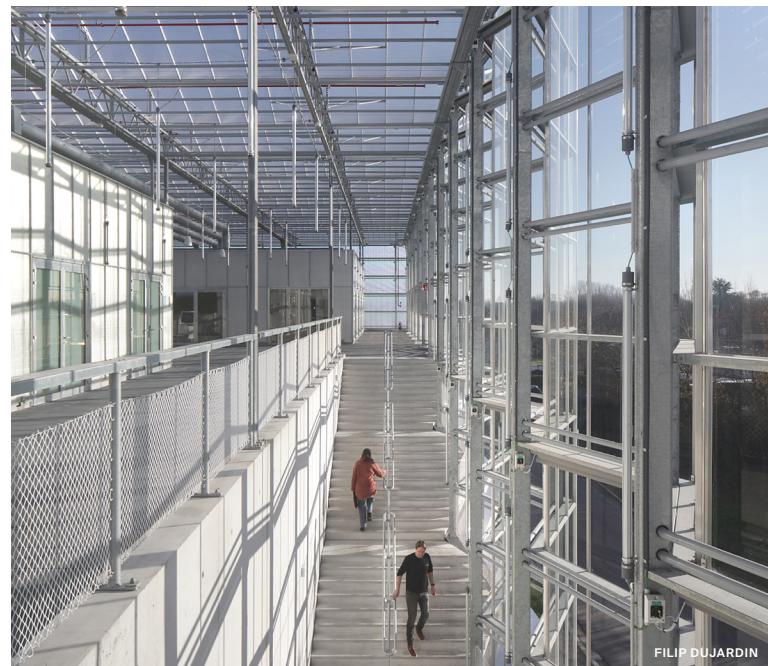
Architect: META architectuurbureau and van Bergen Kolpa Architecten
Diffuse glass: Vetrason
Greenhouse roof: BOAL
Screens: Phormium
Stability and technical studies: Tractebel
Cultivation technique studies: Wageningen University & Research, BU Greenhouse Horticulture
Greenhouse studies: Smiemans Projects

Built atop a low-slung office building, the Agrotopia greenhouse pushes the limits of urban agriculture in Belgium. Designed by META architectuurbureau and van Bergen Kolpa Architecten, the 102,000-square-foot greenhouse provides areas for the cultivation of fruits and leafy vegetables across four climate zones. The complex also houses research facilities for Inagro, the Flemish research institute for agriculture and horticulture, and REO Veiling, a produce distributor that occupied the existing offices. Public walkways link the programs to provide an educational opportunity to

visitors. A sculptural entry staircase moves visitors to the central square of the greenhouse.

The primary facade comprises vertical glass bay windows, with screens that provide sun shading and reduce energy consumption. According to van Bergen Kolpa Architecten owner Jago van Bergen and managing partner Niklaas Deboutte of META architectuurbureau, "the screens can be controlled in two independent directions, rotating with the sun from east to west, so that half of the facade always remains open and transparent to view," in keeping with the public-facing character of the structure. In a thoughtful touch, pipes were threaded through the steel facade columns on this face of the building.

The rest of the faceted facade and the sawtooth roof are made from standard parts. After collecting input from researchers at Wageningen University in the Netherlands, the design team selected a diffuse glass with a particularly high haze factor. The decision led to an increase in crop yields of up to eight percent. **Chris Walton**



Capital One Hall

Tysons, Virginia

Architect: HGA
Facade fabricator: National Enclosure Company
Facade installer: R. Bratti Associates
Facade consultant: Arup
Structural engineer: Thornton Tomasetti
Contractor: Whiting-Turner
Products: Italian carrara marble; custom unitized aluminum framing system by NEC and Wheaton Sprague; Nordic Royal brass cladding manufactured by Aurubis

Designed by HGA, Capital One Hall is a white-marble anomaly in a sea of glass skyscrapers in Tysons, Virginia. Featuring a folded envelope, the mixed-use development devotes roughly half of its total 125,000-square-foot area to public space, as in the world-class atrium.

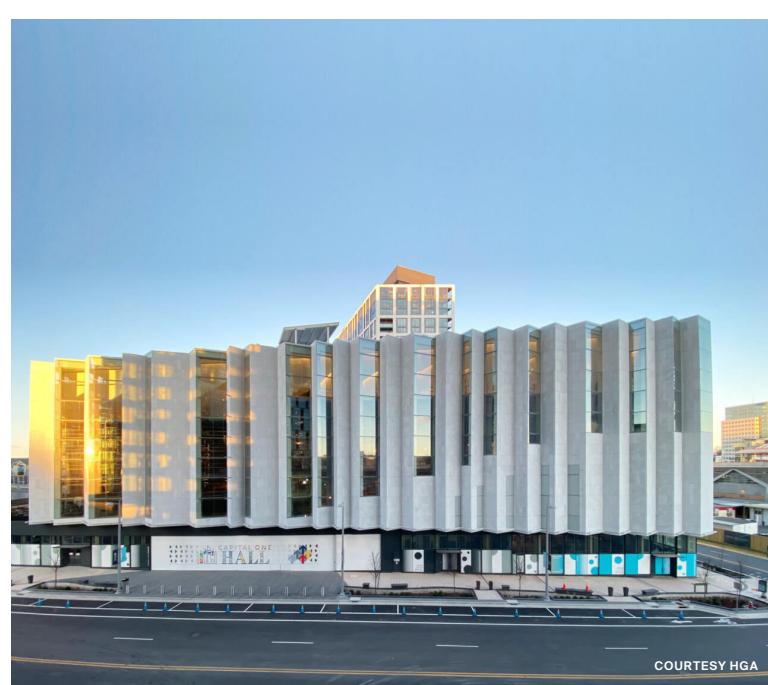
When marble is applied extensively to a building facade, where it is exposed to moisture and fluctuations in temperature, most of it will begin to bow. HGA explored other types of white stone but was able to track down an Italian marble that is particularly dense and

moisture-resistant. The stone, which was sourced from a reputable quarry in northern Tuscany, has traditionally been used to make mortar and pestles, though Alvar Aalto specified it for an assembly hall he designed for the Swedish city of Nyköping.

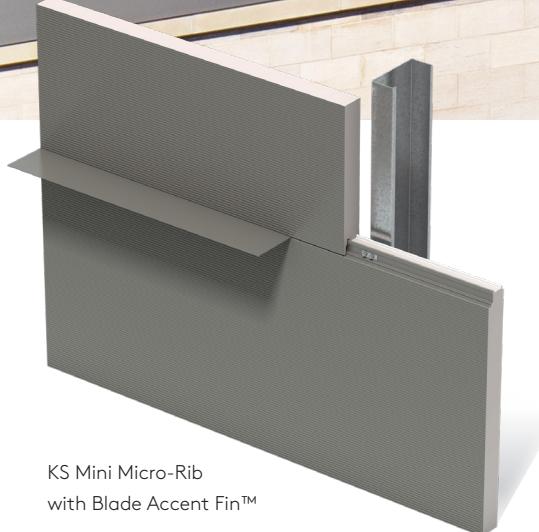
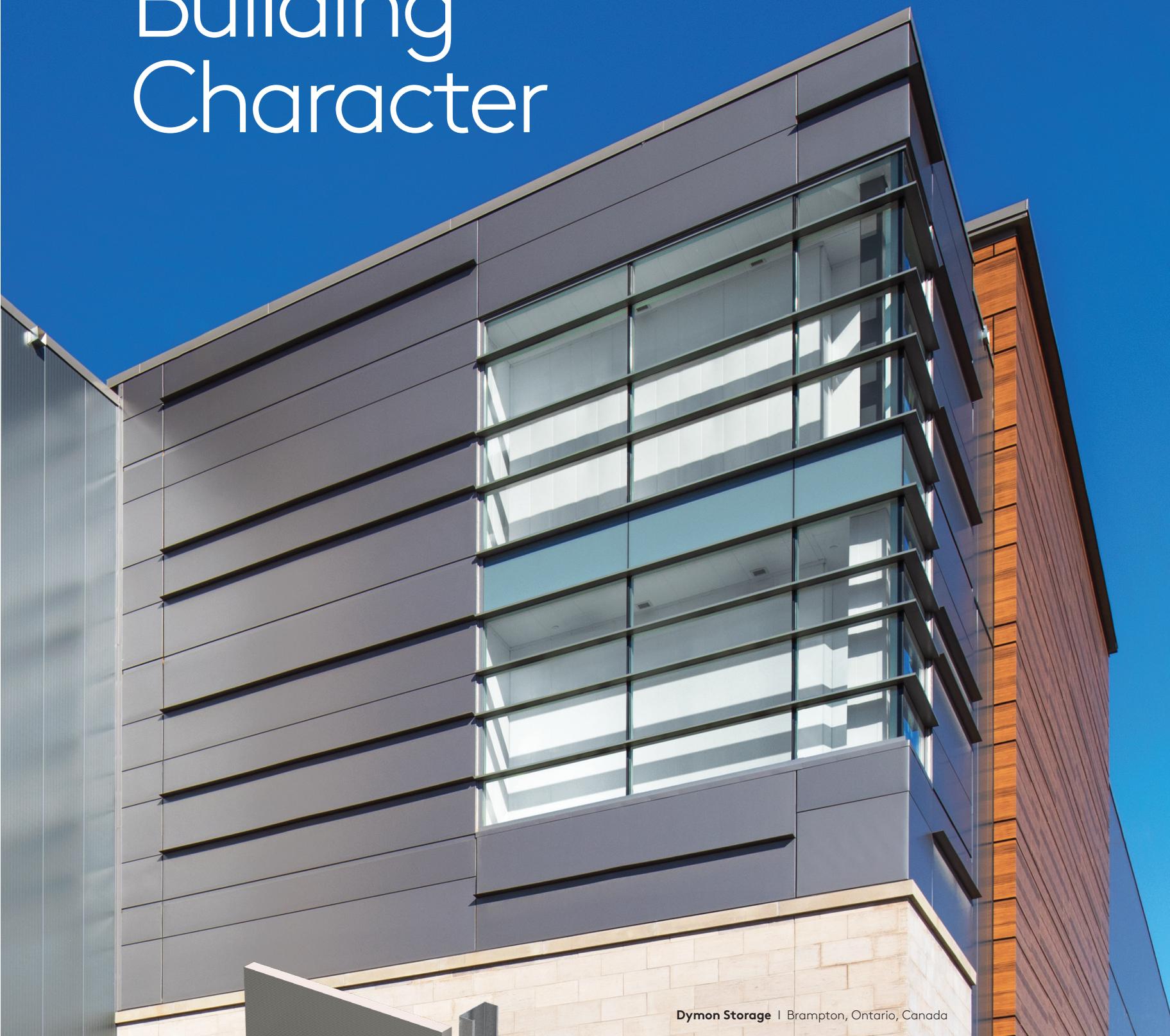
"There's a tradition in architecture of looking at marble through the narrow lens of aesthetics," said Alex Terzich, a technical designer and facade specialist at HGA. "But the unique behavior of marble means that we also have to approach it as an engineering problem."

At 2 inches thick, the 1-foot-4-inch-by-4-foot panels that clad Capital One Hall are thicker than the industry standard to reduce the chances of bowing. Cubic stone, roughly 8 inches on all sides, was used to match individual folds. Large-format Guardian glass panels maximize daylight in the interior.

Thornton Tomasetti, with input from Arup, developed a secondary support system for the heavy stone-and-glazed facade. The custom steel ladder-truss system was tailored to the unique angles and corner conditions of the building's fanned footprint. **Katie Angen**



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Ain't No Valley Low

MVRDV's Valley twists and turns with natural stone and vegetated balconies.



Architect: MVRDV
Planting design: Piet Oudolf
Location: Amsterdam

Structural engineer: Van Rossum Raadgevende Ingenieurs
Contractor: G&S Bouw B.V. and Boele & Van Eesteren B.V.
Engineering: Inbo
Parametric facade design: Arup
Glazing: Blitta
Natural stone: Kolen Natuursteen

When it comes to designing buildings that look like mountains, MVRDV is in a league of its own. That may sound like a spurious claim, but the Rotterdam-based firm regularly injects a jolt of playful geology into its projects. Valley, a mixed-use complex located in Amsterdam's Zuidas business district, takes this trope to an extreme.

The approximately 810,000-square-foot project comprises three tall peaks, sheer on their outer faces and craggily irregular on the

obverse. The gridded curtain wall by Netherland-based fabrication company Blitta gevelsystemen is perfectly flat and seamlessly integrated. The inner facade is more complex: Each floor has a different contoured profile, which results in expressive balconies and terraces. The towers sit on a shared podium, with the space in between recalling—you guessed it—a valley.

MVRDV NEXT, an in-house group of specialists that develops custom workflows and next-generation technologies, collaborated with Arup to detail these rocky outcroppings—no easy feat. Equipped with a bespoke parametric tool, they made as many as 45 design iterations over a period of eight months before landing on the final “wild bond” stone patterning. The facade system comprises 42,000, 1-inch-thick tiles in six standard sizes. The team relied on know-how from KOLEN Keramiek en Natuursteen, an Eindhoven-based stone supplier and fabricator, to determine the assembly.

The irregular patterning proved to be an

aesthetically pleasing solution to the massing's many contours and sharp angles. “At first, in the tender documents, we proposed a regular running bond brick pattern, because at that point we had only drawn a partial sample of the facade,” MVRDV director Gideon Maasland told *AN*. “However, the 3D framework of the structure rendered such an approach unsightly at the corner seam. So we went from a repeating pattern of approximately 31 inches by 16 inches to a mix of sizes, with a maximum obtuse angle of 40 degrees. The largest tiles are double the original size, which generated a degree of enthusiasm from the contractor's side.”

From a structural standpoint, the towers themselves are fairly straightforward; all three are centered on approximately 26-by-26-foot building cores that handle most of each floorplate's structural load. Still, several of the longer cantilevers required additional support in the form of 26-by-16-foot steel frames bolted to steel anchors cast into the concrete balcony slabs.

AN FOCUS



COURTESY MVRDV



OSSE VAN DUIVENBOED

Left: The sheer sides of the peaks are glazed, while the contoured faces are clad in stone.

Top: The soffits of the contoured facade provide shading.

Above: The complex under construction, with exposed building cores

The detailing of these slabs was yet another challenge. Maasland explained: “The terrace floor is just under 7 inches above floor level; even a 10th of an inch higher or lower would impact the waterproofing and allow for leakage. Furthermore, the ceiling of each balcony is connected to the cantilevered beam, which, in turn, has to be insulated and clad in natural stone. Combining all of these elements together was the most complex issue of the project.” The struggle will pay off when these spaces begin blooming with vegetation. (The overall planting scheme was worked out by famed Dutch garden designer Piet Oudolf.)

The project's geologic sensibility continues inside, with a grotto set below a skylight that's also a reflecting pond. MVRDV's stony formation is set to open later this year. **MM**



A CELEBRATION OF ARTISTIC INGENUITY

Thanks to the partnership of the Public Art Fund and Empire State Development, Moynihan Train Hall is replete with artworks created by some of the most renowned artists working today. Among these, the remarkable *Penn Station's Half-Century* series by Stan Douglas, which spans more than 80-feet of glass wall and was inspired by historical moments that occurred within the original station. GGI was honored to play a role in bringing this series to life.

Penn Station's Half Century

By Stan Douglas

Commissioned by Empire State Development in partnership with Public Art Fund for Moynihan Train Hall

©Stan Douglas. Courtesy of the artist, Victoria Miro and David Zwirner.

Photo: Nicholas Knight, courtesy Empire State Development and Public Art Fund, NY



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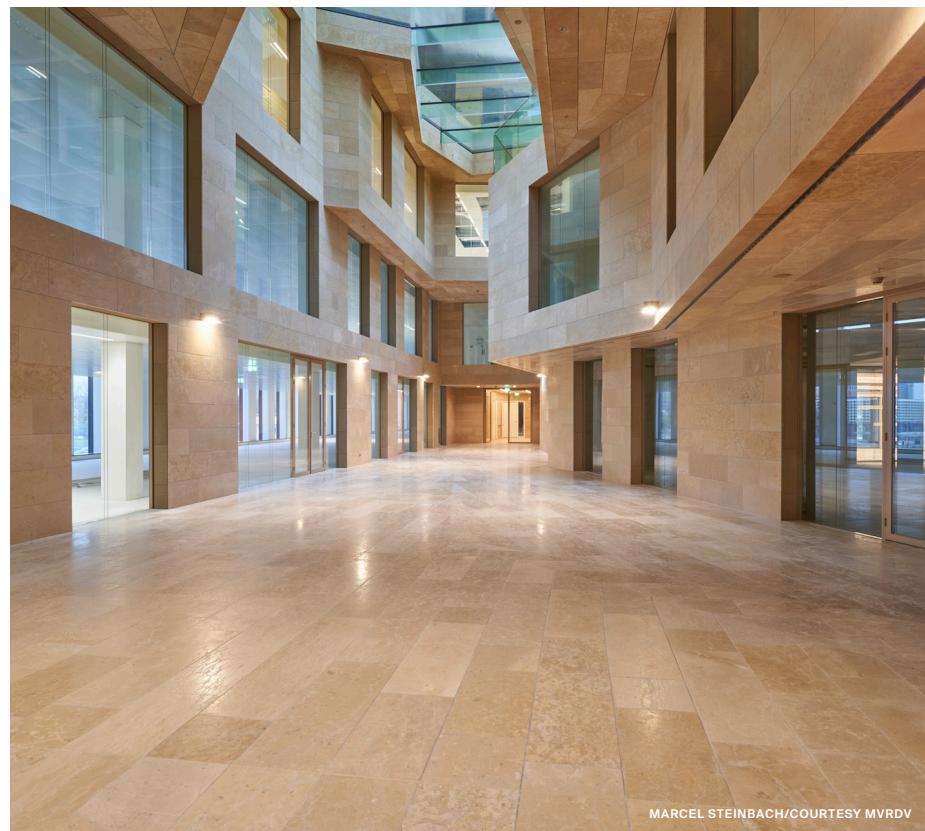
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May 2022

Ain't No Valley Low *continued*



COURTESY MVRDV



MARCEL STEINBACH/COURTESY MVRDV



COURTESY MVRDV



Clockwise from top left: A rendering of the hanging gardens; the overall planting scheme was designed by Piet Oudolf; flow analyses prepared by MVRDV NEXT; a lobby inside one of the peaks

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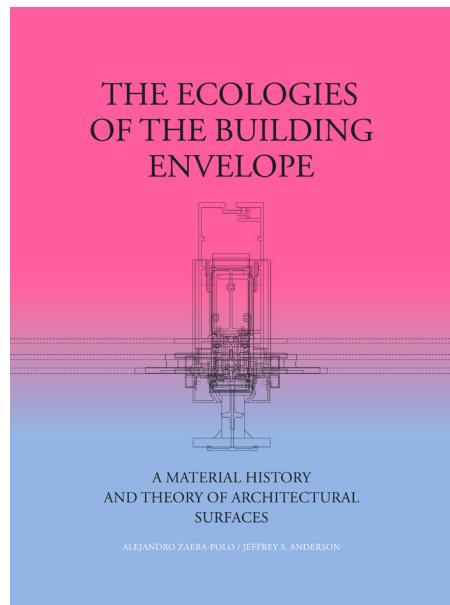
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Eight years after its first (and controversial) appearance at the Venice Biennale of Architecture, Alejandro Zaera-Polo's theory of facades is given its due.



Ecologies of the Building Envelope:
A Material History and Theory of
Architectural Surfaces

By Alejandro Zaera-Polo and Jeffrey S. Anderson | Actar | \$40

Right: Pietro Belluschi's Equitable Building (1948) in Portland, Oregon

Below: The CaixaForum in Madrid, with its prominent living wall



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Contradicting Le Corbusier, many architectural thinkers have argued that the most important part of a building is not its plan but, rather, its facade. This surface is the key to gauging a structure's meaning, attitude, and performance—so says Spanish architect and theorist Alejandro Zaera-Polo (AZP). By his count, theories about the building envelope precede Le Corbusier by generations, going as far back as the early 19th century. It's a busy space of ideas that requires some structural organizing, so it's precisely here where AZP has set up shop.

Beginning with a series of innovative and novel projects by Foreign Office Architects (FOA), the office he cofounded in 1993 with Farshid Moussavi, and continuing to his pivotal essay "The Politics of the Envelope," published in two parts in *Log* between 2008 and 2009, the exigencies of facade design have long preoccupied AZP. Now they're the subject of his new book, *Ecologies of the Building Envelope*, written with Jeffrey S. Anderson and published by Actar.

FOA disbanded in 2011. The following year, AZP became dean of Princeton School of Architecture, and soon after he produced the facade section of Rem Koolhaas's *Elements of Architecture* exhibition at the 2014 Venice Biennale of Architecture. (AZP previously worked at OMA from 1991 to 1993 prior to founding FOA.) This exhibition-within-the-exhibition, which included timelines and factoids, along with a handful of full-scale mock-ups from selected projects, somewhat parted with AZP's core interests; the mock-ups in particular functioned as sculptural objects of contemplation rather than as objects within a technological continuum.

Citations were notably absent in the Venice installation or its subsequent manifestation in the *Elements of Architecture* catalogue. Princeton University took umbrage with the project's lack of academic rigor, accusing AZP of lax academic standards and, eventually, plagiarism. Responding to concerns about the integrity of the research, AZP and his team pledged to produce a more meticulous study,

to be published later. But the incident proved to be a negative catalyst: AZP was impelled to step down as dean, setting off a process of disillusionment with The Academy, broadly construed, that culminated in his dismissal as professor from Princeton last summer. (Subsequent to this, AZP uploaded a multi-part online video series alleging maltreatment he'd received from the school faculty and administration, covered previously by *AN*.)

Ecologies of the Building Envelope retains some of the basic structure of the original project but adds indexes, visuals, and footnotes. At 491 pages, the book covers a wider range of case studies, historical scenarios, and performance metrics beyond those in the exhibition, including sections on performance, componentry, and assembly logics such as prefabrication and panelization. The arguments from "The Politics of the Envelope" reappear in new forms. Crucially, facades here are rendered as complex ecological networks rather than cultural objects invested with



EZRA STOLLER/COURTESY ESTO

representational or symbolic meaning. Each chapter explores a handful of case studies and historical moments for different types of envelopes, including media facades, living facades, and double-glazed curtain walls. The volume is richly filled with details, illustrations both historical and contemporary, and probing thoughts on the evolution and ecology of each type of envelope.

Still, I wonder if critics will resist posing the crude question: Who cares? Do we need a comprehensive theory of the facade? Do we really lack one? AZP's ambitions feel a little like those that animated Walter Benjamin's *Arcades Project*; both explore the evolution of a body of aesthetic and material ideas, but are ultimately incomplete, though for different reasons. Rather than the coherent display of a totalizing theory, this book's collection of beautiful fragments serves as the start of a conversation.

The theoretical scaffolding assembled here doesn't move us any closer to a better understanding of the envelope. Can a product catalogue (manufacturer wares eat up a sizable portion of the book's real estate) be converted into theory? If the facade is the place where value—architectural, cultural, political—is communicated to various publics, then what important values are being offered by buildings today?

AZP's ecology arrives at a time of enormous interest in the study and production of facades. In the past decade, the construction industry has started to address issues such as embodied and operational carbon through life-cycle analysis (LCA) and other accounting tools that aim to capture supply chains. Building scientists can now document, in minute detail, the actual ecological footprint of a building in real time. New energy laws and standards require holistic approaches to building. And academics such as Kiel Moe have outlined theories to support these dynamic ecological approaches. The building envelope is the site of so many innovations that have serious energy impacts, ranging from materials and maintenance to evolving performance standards for new and existing buildings.

Does the complex material assemblage of a facade itself contain a politics? Absolutely, as the materials we build with have real-world implications for labor, and its expressions establish how an architecture meets its context. After last year's high-profile antics, this handsome, maniacally documented book goes some way toward restoring AZP's credibility. Its arguments establish a theory of the envelope; now it's up to others to respond to and expand upon his achievement. **Marty Wood**

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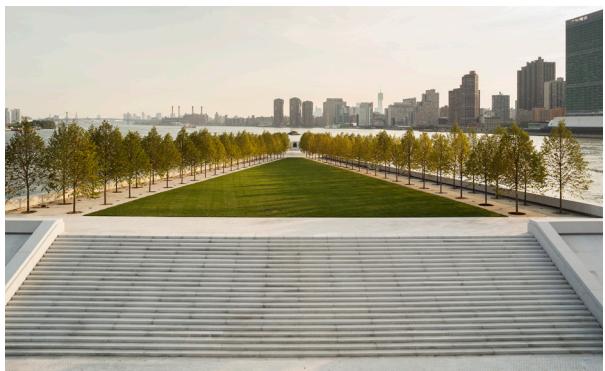
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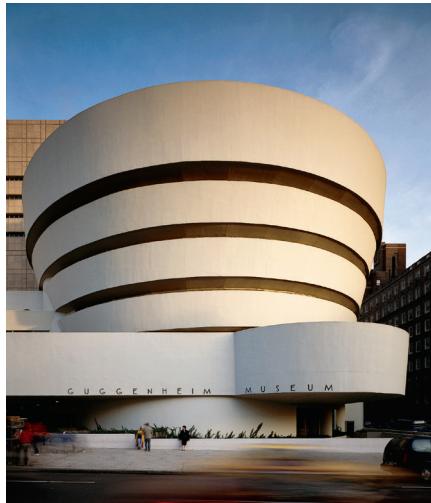
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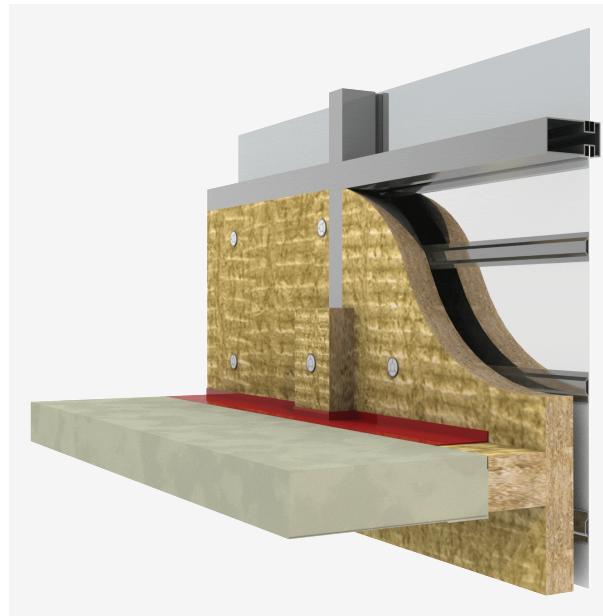
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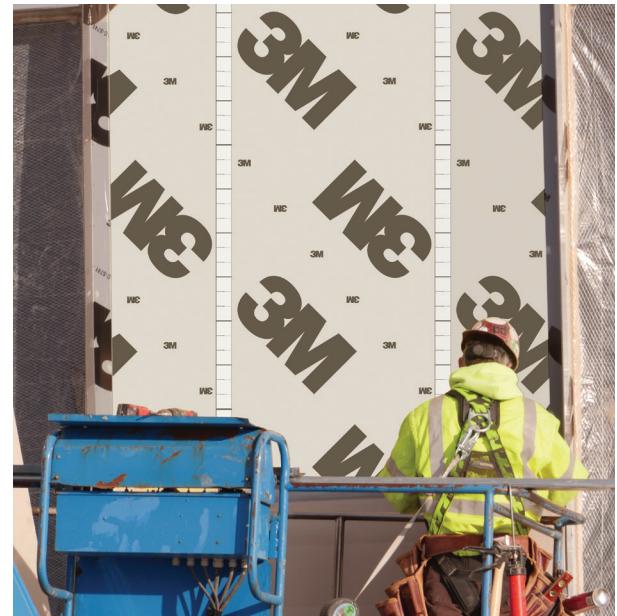
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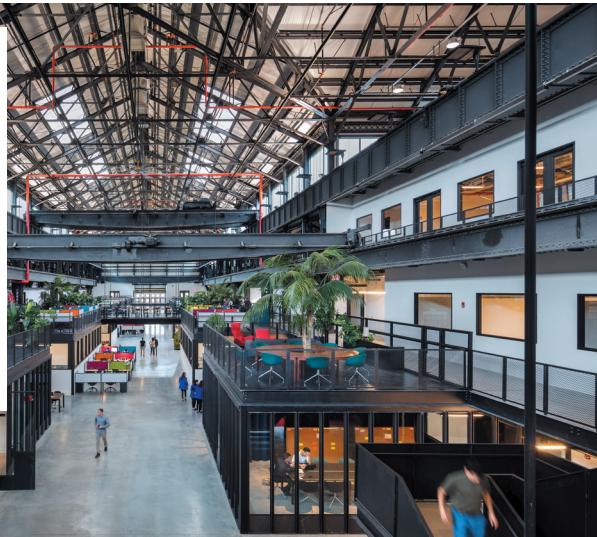
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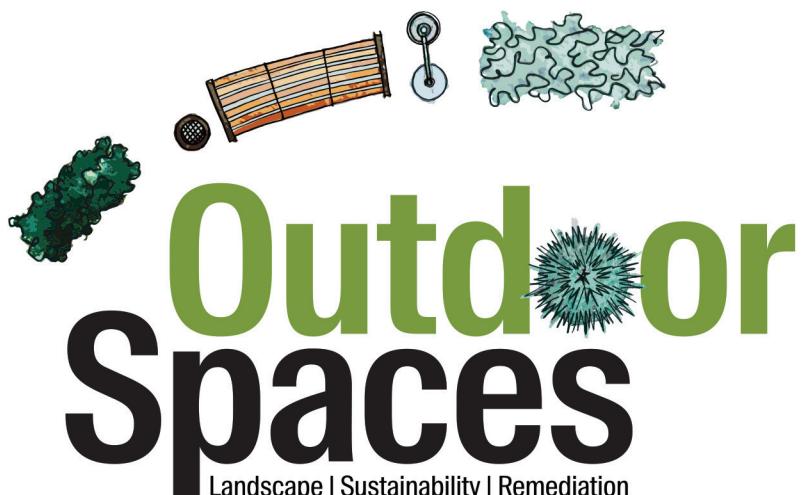
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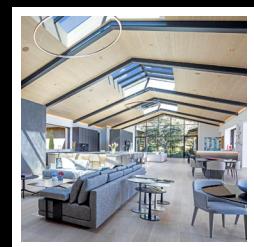
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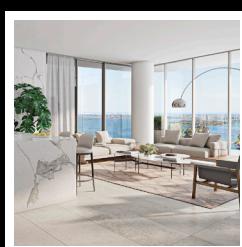
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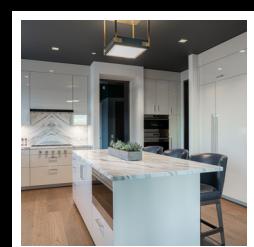
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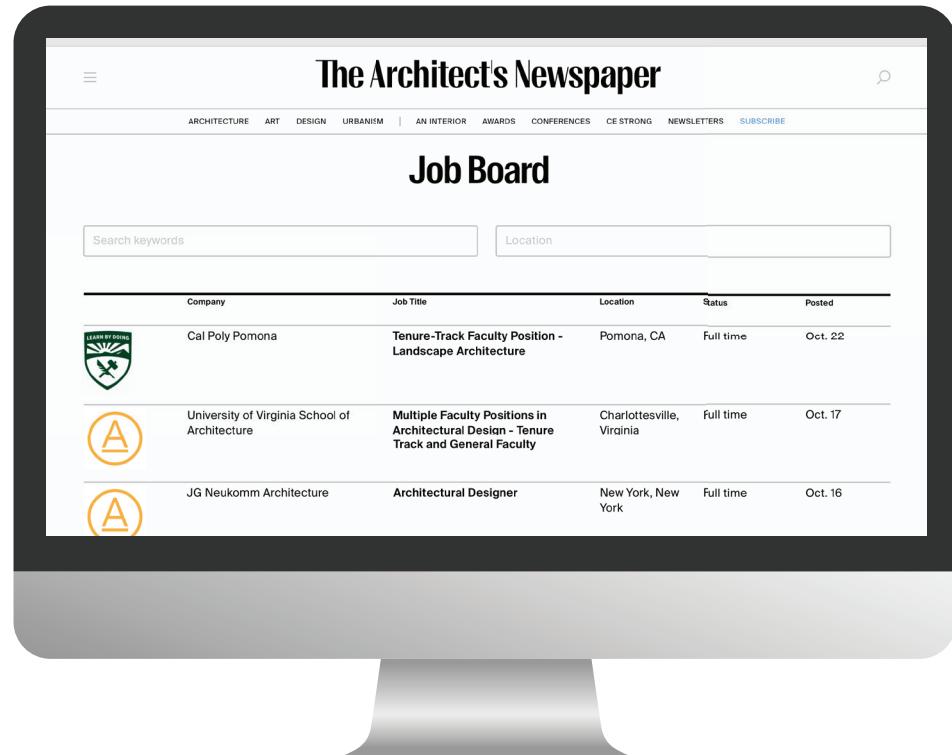
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94 Highlights

East

Reset: Towards a New Commons

New York Center for Architecture
536 LaGuardia Place, New York, NY 10012

Open through September 3



COURTESY / THE CENTER FOR ARCHITECTURE

How can we live together? *Reset: Towards a New Commons*, on view this summer at the Center for Architecture in New York, offers some answers. Curated by Barry Bergdoll and Juliana Barton and designed by Natasha Jen of Pentagram, the exhibition showcases models for collective habitation that aim to overturn unjust planning practices. As was done with Bergdoll's 2012 exhibition *Foreclosed: Rehousing the American Dream*, organizers matched four interdisciplinary teams

to four sites in cities across the country: In Berkeley, California, Irene Cheng, David Gissen, and Chip Lord, et al., explore housing for the disabled; in Oakland, THE OPEN WORKSHOP, Ignacio G. Galán, and Karen Kubey, et al., imagine an infrastructure for eldercare; in East Harlem, Deborah Gans, Kate Levy, and students from Pratt Institute, et al., revitalize public playscapes; and Architensions, Parc Office, and Sharon Egretta Sutton decolonize a Cincinnati suburb. **Jack Murphy**

East

Designing Peace

Cooper Hewitt, Smithsonian Design Museum
2 East 91st Street, New York, NY 10128

Open June 10 through September 4



RONALD RAE AND VIRGINIA SAN FRATELLO

The premise of *Designing Peace* is fairly self-explanatory. Curated by Cynthia E. Smith with Caroline O'Connell and featuring displays by Höweler + Yoon and graphics by Common Name, the show implicates design in processes for mitigating, if not expunging, conflict. The pair has organized the exhibition's varied contents—40 contributions from 25 countries, including models, full-scale installations, maps, and film—with the help of prompts. For example, how can design preserve community safety? How can design be used to root out

the causes of a conflict? How might design contribute in smoothing the transition to peace in unstable contexts? And more curiously, can design engage “creative confrontation”? Given the sad state of geopolitics, the findings and solutions presented in *Designing Peace* are as urgent as ever. **JM**

Midwest

Architecture of Reparations

CAB Studio at the Chicago Cultural Center
78 East Washington Street, Chicago, IL 60602

Open through December



ISABEL STRAUSS

In March, the Chicago Architecture Biennial (CAB) opened a permanent gallery on the first floor of the Chicago Cultural Center to stage programs in the event's off years. Riff Studio's *Architecture of Reparations*, the space's inaugural exhibition, investigates how the Bronzeville neighborhood on Chicago's South Side was partly cleared to make way for the Illinois Institute of Technology (née the Armour Institute of Technology), whose campus was designed by Mies van der Rohe in the late

1930s. But *Reparations*, which made an earlier appearance at CAB's 2021 edition, doesn't stop there; its branching time line continues right up to the present. Architectural designs responding to a request for housing proposals in the area are foregrounded, and the project's website sports a playlist, questionnaire, and bibliography, along with the original RFP, which itself is worthy of appreciation. **JM**

West

Schindler House: 100 Years in the Making

MAK Center for Art and Architecture
835 North Kings Road, West Hollywood,
CA 900969

Open May 28 through September 25



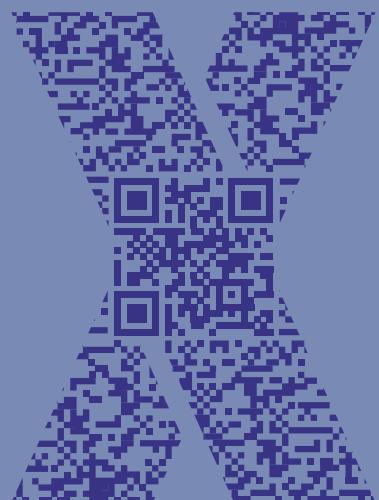
JULIAN HOEBER

In 1922, the Austrian architect Rudolph Schindler completed his low-slung Kings Road House in West Hollywood. Designed as a duplex for two couples (Schindler and his wife, Pauline, and their friends Clyde and Marion Chase), the residence features a pinwheel plan anchored by a single kitchen. The tilt-up concrete walls were a structural innovation, while the home itself, argued the critic Esther McCoy, captured the “spirit of feminism and the whole revolutionary spirit of the time.” Today, the property is maintained

by the MAK Center for Art and Architecture, which plans to celebrate the centenary with the exhibition *Schindler House: 100 Years in the Making*. At the invitation of MAK director Jia Yi Gu, artists such as Carmen Argote and Peter Shire will stage installations in the rooms of the house, which will complement the bevy of archival materials in vitrines. Additional programming—seminars, reading groups, benefits, edible performances, and tours—will keep up the festivities through summer's end. **JM**

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96 Review

The Project of Independence: Architectures of Decolonization in South Asia, 1947–1985

Museum of Modern Art | Open through July 2

The Project of Independence, now open at MoMA, is steeped in longing for a return to a more hopeful time when architects made nation-states. The drawings, models, and photographs on display reflect a willingness on the part of mid-century architects to collaborate with nation builders, no matter the cost. The prevailing ideology of the time was that decolonization could only be achieved through modernization and industrialization, and the exhibition presents artifacts of this project of decolonization.

Yet, as a viewer, I found myself wondering what has changed, conceptually, in the last 60 years. How has recent scholarship on the decolonization and deimperialization of the lands and peoples in South Asia come to be an indictment, not only of colonial histories but also of current political regimes that orchestrate pogroms and land grabs? How has the fantasy of the nation-state become illegitimate, given its reliance on violence to maintain its legitimacy?

The first object one encounters before entering the show is a large reprint of Sunil Janah's photograph of men climbing a television tower. This joyful celebration of technology covers the name of MoMA's Philip Johnson Galleries, a tradition begun by Mabel O. Wilson and Sean Anderson's 2021 *Reconstructions*. On the other side of this threshold, one finds a small photograph by Margaret Bourke-White, from her series on partition refugees making the journey across the India-Pakistan border. The image is less a document of the unfathomable violence and trauma of partition and more a metonym of the nation, emerging painfully from colonialism, headed toward a self-determined future. Rather than reckon with this history, *The Project of Independence* takes all the violence of colonial conquest and postcolonial nation-building and condenses it into an 8-inch rectangle. Partition wasn't simply an event that produced the need for new buildings and new ways of living; it was a sampling of the vast legacy of violence that has accompanied both the colonial and postcolonial history of South Asia.

Curators Martino Stierli, Anderson, and Anoma Pieris manage to sidestep the multiple pitfalls of the genre. They stay away from the "modernity-tradition-identity" trope, opting for a thematic rubric ranging from institution building and industrial infrastructure to new urban arrangements. This conceptualization adheres to trends in scholarship, even though the narrative of forging a new national aesthetic lies just below the surface. Every so often a project seems smuggled in, perhaps for its beauty. A visitor might, for instance, pause at the lovely drawings of Valentine Gunasekara and Christopher de Saram's Tangalle Bay Hotel (1972), wondering which theme they were currently immersed in, only to discover none. There is value to how individual countries—India, Pakistan, Bangladesh, and Sri Lanka—fall into the background as one peruses the projects on the walls and in the catalogue, yet this too is a double bind. Eschewing national origins, Stierli et al. seem to make a case for a shared colonial history and possible postcolonial



Valentine Gunasekara and Christopher de Saram's Tangalle Bay Hotel (1972) in Sri Lanka

unity, yet this same gesture evades historical specificities, particularly the unsavory political contexts within which these buildings are uncomfortably embedded.

Acknowledging the exclusion of women common in exhibition making, the curatorial team has been careful to include women practitioners such as Yasmeen Lari in the mix. Similarly, the show somewhat steers clear of the great-man approach, so that in place of Le Corbusier, we get his architectural amanuenses, including Minnette de Silva and Aditya Prakash. I recommend pausing in front of the beautiful drawing of Prakash's Tagore Theatre (1962) and at an urban mobility study that indexes the lifelong work he did, institutionally and architecturally, to make Chandigarh a vibrant, living city. A government-produced documentary film about Chandigarh's construction depicts the laborers who moved up and down ramps to pour the concrete that formed the Capitol Complex. That buildings are constructed by workers is a tautology; the real question here is, what are the multiple labors of architectural thinking and making that the myth of the solo creator has concealed? Le Corbusier is never dismantled as the origin story of Indian modernism; he is merely displaced onto his acolytes and into his buildings.

There are two accounts on which the exhibition does real institutional work, in conserving artifacts and producing new ones. I would be remiss not to mention the sheer pleasure of drawings and images that the survey puts together. One can only imagine the difficult task of collecting this material and mounting this exhibition in the context of a global pandemic. I know from my own work that India's multiple lockdowns made navigating institutions more complicated than it already was. Even outside of the

pandemic, anyone working in this time and region knows the pain of finding drawings alternately eaten by insects or destroyed by dust and neglect. Entire archives have been lost, especially when drawings were handed over to state bodies. The hope is that a show such as this makes scholarship possible by forging new networks and creating the conditions for accessing this history. But with this hope comes certain questions. Should the gallery's role remain purely object-oriented, consigning the conceptual and historical work to catalogues? Must wall texts that draw on the archival and theoretical arguments of scholars read like Wikipedia entries? Although this tone is the standard for exhibitions, it does not have to be.

On the second front, the production of new material, Randhir Singh's photos are beautiful. A particular favorite of mine depicts a reading room in Mazharul Islam's public library at the University of Dhaka (1954). The contrast between the books on the wall (cloth- and leather-bound tomes) and the books piled on tables (economically printed textbooks often designed for cramming for various exams) hint at the brutality of current regimes of education. A few masked students crop up here and there in Singh's photos, the sole indication of a pandemic that uniquely affected construction laborers in the region. But the few representations of laborers in the exhibition don't convey these kinds of structural exploitations. Then there are the wood models of buildings made by students from the Cooper Union in New York, which are wonderful. Yet, it is easier to outsource model making to students than it is to actually decolonize the pedagogy of South Asian architectural history.

Full disclosure: Early on in the exhibition planning, I was invited to share some

thoughts with the curatorial team, which has kindly included my name among a list of advisers at the back of the catalogue. At the time, I commented that the moment was ripe to pull apart what South Asia is and how the current discourse on decolonization afforded the exhibition an opportunity to challenge the geographical and temporal determinism embedded in the narrative of independence. (India and Pakistan achieved independence in 1947; Sri Lanka in 1948; Bangladesh achieved independence from Pakistan in 1971.) To be clear, South Asia is a historically constituted region; various countries, peoples, and languages have been included and excluded from this geography, following shifting geopolitical currents. To that end, in presenting South Asia as a continuum, *The Project of Independence* underscores the ties that hold the region together more than the borders that separate them. Neither the exhibition nor the catalogue is organized according to the four countries that were chosen to represent the region. Yet, how wonderful it would have been to see a project from Bhutan or Nepal or the Maldives. It is a travesty to disavow Afghanistan, but maybe even Myanmar and Iran could have been sneaked in.

My intention isn't to extend the boundary of the political region that is South Asia by adding more countries and projects to a list. Rather, my point is that any serious attempt to decolonize the history of architecture should make clear the precarity and political violence involved in border-drawing projects and the politics of inclusion and exclusion they subtend. Likewise, the temporality of the exhibition, achieved by its neat bracketing of 1947 and 1985—the year the South Asian Association for Regional Cooperation was formed—perpetuates the myth of a break. Surely, there are strategies of display that acknowledge the momentousness of those beginnings without falling prey to the mythologies of origins.

Should you go see the show? Yes, of course. See it and enjoy the authentically hopeful architecture of nation-building. But know that the curatorial team cites decolonization, not as a postcolonial theoretical field, but as a specific historical event. In doing so, the exhibition doesn't ask or answer questions as to what decolonization could possibly mean. Another possible model for a survey on post-independence architecture might seriously consider what the labor of decolonization would constitute theoretically, and what the reparations due would look like economically. In addressing the legacy of colonial violence and its confluence with modernism and industrialization, it would need to question whether architects were complicit in the immediate imperial turn of independent governments. Without pursuing these lines of inquiry, *The Project of Independence* is in danger of continuing neocolonial tendencies by valorizing heroic narratives of late architectural modernism in South Asia.

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97 Review

Non-Extractive Architecture, Volume 1: On Designing without Depletion

Edited by Space Caviar | Sternberg Press | \$32



Non-Extractive Architecture: On Designing without Depletion, a newish volume edited by the design research group Space Caviar, is provocative and timely in a way that much contemporary architecture writing just isn't. The project stresses the role of architectural work writ broadly—encompassing buildings but also infrastructure and urban planning—in a long “Anthropocene”-type history. To this end, the editors guide the discussion with questions and provocations. I quote a few below, taken from Part V, “Toward a Non-Extractive Architecture,” and offer up some of my own answers:

Is architecture intrinsically extractive?
Yes.

Is it predestined to be an instrument of social injustice and an accomplice in human extinction?
Yes.

Is there no alternative to the predatory overconsumption of finite resources?
Well, yes, there is one. But you may not like the answer (find out below).

Is it possible to imagine an architecture that does not depend on hidden costs and externalities? A non-extractive architecture?
See above.

To be clear, these questions are not answered in the volume itself. Indeed, *Non-Extractive Architecture* displays a general contentedness in letting such queries simply remain on a rhetorical level. Terms of analysis are never fixed. Despite their prevalence, “non-extraction” and “architecture” float unmoored throughout or are bent to the whims of individual contributors. Depending on the context, “non-extraction” can connote technocratic circular carbon economies or austere localism. Likewise, “architecture” may appear as either the transcendent art of building or the banal administration of construction-development schemes.

The volume's clearest statement of intent is to be found in lead editor Joseph Grima's inaugural essay, “Design without

Depletion.” Grima begins by describing the Etruscan village of Baratti, on Italy's Tyrrhenian coast, a place “[s]haped by a history of extraction, technological innovation, and dependency on that which lies beneath... where the production of empire, by military and economic means, touches ground.” In Baratti, this legacy is of an explicitly geographical character: The hills that used to surround the town (some of which were 65 feet high) were not geological formations at all but in fact great heaps of slag, remnants of crude Roman iron production. These “hills” were later pressed back into service beginning in 1921 by the Italian (Fascist) war machine, which through refined smelting techniques recovered some 300,000 tons of metal.

While this historical scenario is fascinating, there is a dangerous naturalization contained within it, one that cleverly draws a great unbroken line from deforestation and metallurgy in imperial Rome all the way to present-day industrial techniques. Declining to engage with the current predicament, *Non-Extractive Architecture* profers a “long now” perspective, which judges human habitation to be and always have been extractive in all places across all time periods. With this established, contributors are set free to treat discrete scenarios with whatever pet theoretical approaches they have at hand. The particularity of capitalism as a mode of production and social organization within history lies, for the most part, outside the book's scope.

In this way, *Non-Extractive Architecture* attempts to have its cake and eat it too: to be anticapitalist, insofar as capitalism remains nebulous and undefined, but also to be anti-architecture, insofar as architecture is construed as a byword for extraction, separate from its artistic administration. Because the book associates blame with the imprecative work of extraction that presages all architectural creation, it ultimately lets architects off the hook.

Organized into thematic clusters, the collection often comes off as a fitful dance, with unsparing theoretical analysis followed by a soft feint. At times, this dynamic occurs within individual contributions, as in Mark

Wigley's “Returning the Gift,” which vividly analogizes buildings to “pieces of mining equipment, actively devouring the planet,” only to then gesture at a “shift of visibility” that would foreground architecture's extractive attitude. In their piece “The Thin Thread of Carbon,” Stephanie Carlisle and Nicholas Pevzner lament that “every city has its pit, and every material its extraction landscape”; the pair proceed to chuck this insight into the proverbial academic abattoir, in which architecture must be “un-made” until nothing remains. If there's a unifying trend here, it is the convenience with which things always seem to turn, at the perfect moment, from intractable, concrete problems into easily solvable false problems of mind—or, put another way, from materialist analysis into the ponderous animism of New Materialism.

A few studies buck this trend. Charlotte Malterre-Barthes's “The Devil Is in the Details” emphatically puts the lie to the idea of incremental sustainability and its abiding fiction of a “circular economy” of building materials. In “Old New Deal,” Keller Easterling reveals the settler-colonialist underpinnings of the New Deal that today's green advocates unwittingly reproduce in their reparative schemes. Swarnabh Ghosh's methodologically precise “Critique of Labor in Construction” advocates for conceiving “the work of designing buildings and the work of building buildings as internally related parts of the same whole.” It's among the most potent, lucid formulations to be found in the entire collection.

Ghosh's essay echoes Nancy Fraser's exhortation to move from “capitalism talk” to *Kapitalkritik*—a damning statement that could be broadly applied to *Non-Extractive Architecture*. The ideological chasms separating some writers, coupled with an editorial indifference to first principles or methods, render the book less a coherent statement and more a potpourri of ideas that happen to coexist within the same volume. Even the layout seems designed to leave readers circling the drain, so to speak: The book is divided into five sections of, typically, two essays and an art project write-up, leaving very little opportunity for momentum to build up. Perhaps Volume 2 (due out later this year) will organize these disparate strands into a unified line.

Though *Non-Extractive Architecture* does not go as far as it could, it does go to some interesting places. The volume truly shines when it digs in for an ideology critique of the architectural profession itself. But even then, many of the featured essayists are unable to break from a conception of the individual architect as reformist agent. In her essay “Open Water,” Elsa Hoover beseeches young architects to undertake “some work of imagination to step offshore... in order to consider other systems in the formation of space.” Yet, if feats of imagination or a well-meaning art exhibition (the book's release was pegged to last year's Venice Architecture Biennale) could change the world, they would have already done so many times over. The enemies lurking in these pages—fossil fuel companies, product providers, energy conglomerates, steel manufacturers, and all stripes of multination-

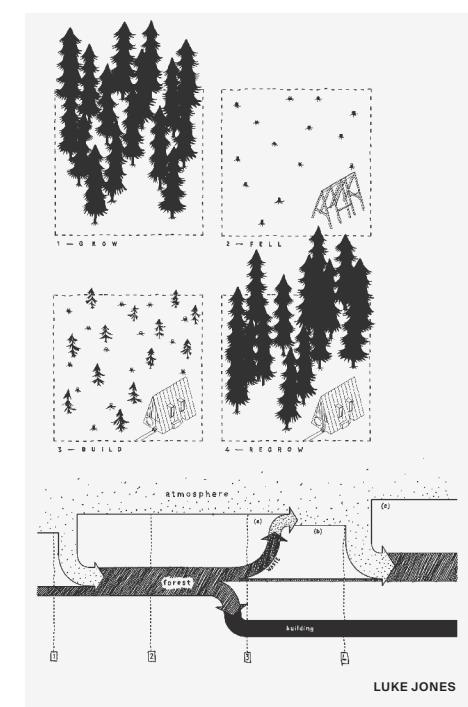
al corporate monsters—do not respond to invocations of morality, and that's basically all the essays here have to offer.

When Jane Hutton does perturb this narrative, it is in too meek a voice. She writes:

For designers interested in what non-extractive architecture could be, there is much to learn from land defenders, abolitionists, and others who reject the harmful present, while dreaming of and constructing a different future. The concepts of reciprocal relations and solidarity... challenge the idea of architecture as a building in space, asserting that it should instead be considered a network of relations with land and other species, obligations and responsibilities to places and people, and potential connections and solidarity with others working to the same ends.

Were it that our architects could be compelled by some internal force to ethically act—to consort with radicals for the good of the planet and its future. But the time for leaving the question up to individual practitioners is long over, and relying on an individualistic exhortation to *do better* is not enough. Extraction and accumulation are not the work of the species, but particular moments in a process of making a lot of money. Architecture, or, more precisely, the corporate activity of designing and administering other corporations, is one such moment. If anything, “architecture” is simply the name that we give to the material appearance of capitalism as it stalks the earth. It is the incisors of capital as it eats up the world.

Kevin Rogan is a writer, designer, student, and dilettante who lives in New York.



Top: A follow-up to Vol. 1 is due out this year

Above: Luke Jones's contribution looks at carbon flows in forests.

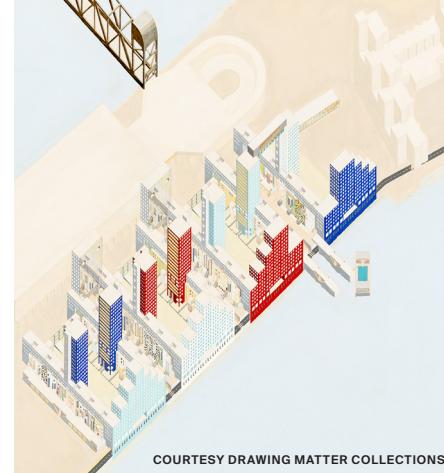
98 Review

Zoe Zenghelis: *Fields, Fragments, Fictions*

The Heinz Architectural Center, Pittsburgh | Open through July 24



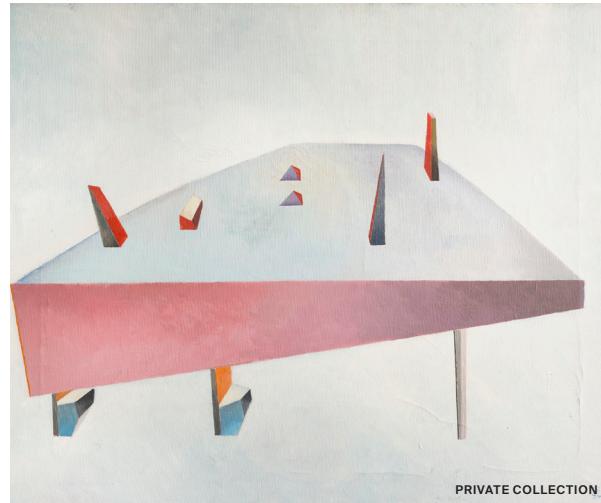
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From Alsop to Bernini, Le Corbusier, and on to Zaha, there are plenty of architects who have also painted. But the painter who works in architecture is a rarer breed. Now an eminent example is receiving her due in the Carnegie Museum of Art's *Zoe Zenghelis: Fields, Fragments, Fictions*, an exhibition that runs through July 24 at the Heinz Architectural Center in Pittsburgh.

Zenghelis, born in Athens, Greece, in 1937, is best known as a cofounder of the Office for Metropolitan Architecture (OMA) along with her then husband, Elia Zenghelis, and another painter-architect couple, Madelon Vriesendorp and her then partner Rem Koolhaas. OMA's history often results in the double occlusion of female talent, as both Zoe and Vriesendorp are at times overshadowed by Elia and Koolhaas—and the last often eclipses the prior three, to the point of factual error: Zoe's paintings at times appear credited solely to OMA or to Koolhaas. Aiming to right this wrong, *Fields, Fragments, Fictions* highlights her considerable body of work, which has remained decidedly, if impressionistically, architectural throughout her life.

The range and assortment of material on view in Pittsburgh is bracing and delightful, as it features numerous paintings, sketches, letters, and more, paired with Zenghelis's selection of works from the museum's permanent collection. The exhibition follows and builds upon *Do you remember how perfect everything was?*, staged at the Architectural Association (AA) in London last year and curated by Hamed Khosravi, an educator at the AA. The Carnegie's show is cocurated by Khosravi and Theodosios Issaias, associate curator at the Heinz Architectural

Center, and, most importantly, was assembled with Zenghelis's active participation.

The show emphasizes that Zenghelis was *not* an architect; these pieces were not a distraction from the architect's charge to build, but a prompt from another field—that of art. Seen through an architectural lens, her work encourages possibilities.

Zenghelis's early work for OMA, produced for competition entries and proposals, restores the value of "paper architecture." As a foursome, OMA was not merely conceptual like Archigram or Lebbeus Woods; eventually they built things that resembled their dreams. The quality of OMA's imagery—much of which Zenghelis produced—was central to its oeuvre. Koolhaas knew this. He wrote to Zenghelis about *The City of the Captive Globe* (1972): "I sent you a rough sketch and I received a masterpiece back."

Both precise and droll, the OMA-era paintings, even those you've seen reproduced a thousand times, are a jolt to encounter in person. *The City of the Captive Globe* demands viewing apart from its appearance in Koolhaas's *Delirious New York*. It's a provocation, but a supremely clever one, planting Kazimir Malevich, Salvador Dalí, Le Corbusier, and *The Cabinet of Dr. Caligari* alongside Rockefeller Plaza and the Waldorf Astoria.

The Egg of Columbus Centre (1973) stands poised between the possible and impossible, with doses of surrealism sprinkled throughout; Théodore Géricault's *The Raft of Medusa* (1818–9) can be glimpsed at the bottom right corner. *Checkpoint Charlie* (1987) is distinctly moody (and for a building that was actually built, no less), with the

Cold War gloom of NATO's Able Archer exercise mixing with the optimism of that year's International Building Exhibition Berlin.

One segment of the Carnegie's exhibition focuses on OMA's projects in Greece, which largely went unbuilt. In Zenghelis's images, buildings are replaced by landscapes. A 1982 bird's-eye view of the unbuilt Hotel Therma project on Lesbos depicts mostly olive trees. Kenneth Frampton, in an essay in the catalogue of *Do you remember how perfect everything was?*, labels these works as "a kind of loosely conceived, quasi-Suprematist confetti." Others are mainly sky and mountains; what else would one want to see in Greece?

After parting ways with OMA, Zenghelis taught color workshops at the AA with Vriesendorp from 1982 to 1993, teaching Zaha Hadid's students, among others. Their methods included instructions for turning a line drawing into a painting and briefs for creating architectonic formations, with the goal of liberating students from rigid conventions of architectural drafting. The duo's undertakings, which paralleled the rise of AutoCAD, were a welcome alternative to the possibilities of drawing, as one even more rote method of delineation overtook another.

Zenghelis's solo work veered away from architectural representation, but buildings are still evoked in different ways. These pieces occupy the liminal space between Constructivism, René Magritte, Dalí, and certainly Italian Futurism, especially in her later turn to a close attention to variations in light that are resolutely unnatural.

Works from the Carnegie's permanent collection that Zenghelis selected to be

installed with her work don't presume to explain her work or its origins, although Malevich's *Suprematist Drawing* (1927) and *Ansanger (Radio Announcer)* (1923) by El Lissitzky would clearly seem to. Other pieces from Janice Biala, Ben Nicholson, and Fred Baier create intriguing dialogues. The exhibit's general composition skillfully balances the included artworks, deftly encapsulating different phases of her work at OMA, then at the AA, and her solo works.

Now in her 80s, Zenghelis maintains a firm rhetorical distance from the world of solutions, either architectural or political, even when her works seem to suggest otherwise. She has stated that her "buildings and houses have no connection with reality." Of course, some items depart from reality, while others convey their intentions clearly, such as the barbed-wire-scared *Partitions* (2001). These days, an exhibition that doesn't style itself as a manifesto to be digested is a welcome respite.

In the end, what does Zenghelis want us to see in her work? We can be safe in assuming, given her close involvement in the exhibit's production, that the curators accurately conveyed her intent through the exhibition text: "[Zenghelis] invites us to see forms, colors, and shapes, as well as buildings, cities and landscapes for what they are on their own, in relation to each other, and in their poetic capacity to evoke emotions, from melancholy and terror to desire and happiness."

Anthony Paletta is a writer living in Brooklyn.

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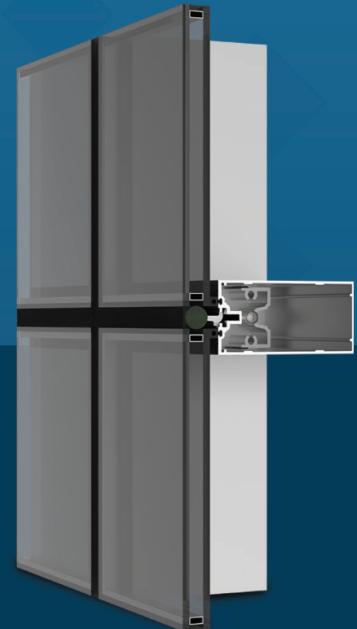
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